Land use planning for unsustainable growth: Assessing the policy to implementation cycle

Commercialization of roads in Karachi: A case study

Farhan Anwar

Friedrich Naumann STIFTUNG FÜR DIE FREIHEIT

شہری
CITIZENS FOR A BETTER ENVIRONMENT

Friedrich-Naumann-Stiftung fur die Freiheit
House 19, Street 19, F-6/2
44000 Islamabad-Pakistan
Tel: +92-51-2278896/2820896
Fax: +92-51-2279915
E-mail: pakistan@fnst.org
Website: www.southasia.fnst.org

Shehri-Citizens for a Better Environment
88 R, Block 2, P.E.C.H.S.,
Karachi-75400, Pakistan
Ph: +92-21-34530646/34382298
Fax: +92-21-34530646
Email: info@shehri.org
Website: www.shehri.org

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To begin with I would like to acknowledge the trust reposed in me by Shehri-Citizens for a Better Environment for undertaking the preparation of this *Study* that has been an exceptionally challenging task for me – given the constraints with the availability of the relevant data and lack of any prior research work on this particular aspect of urbanization in Karachi. Within this context, I have been extremely fortunate for the input I have received from relevant experts such as Arif Hasan and Dr.Noman Ahmed. In addition, I am greatly indebted to all the individuals whose research work I have referenced for this *Study* for highlighting some of the social and environmental consequences that can materialize as a result of unplanned land use change. Special thanks are due to Seema Khurram for excellently supervising and coordinating the field survey in the selected traffic corridors. I am also greatly indebted to the technical expertise extended in the composing and designing work for this document by M. Arshad Shah.

It is hoped that even despite some constraints under which this work has been done, the findings would contribute usefully to the discourse on this subject and result in appropriate revisions and adjustments in the policy making and planning processes in the city so that they are more responsive to the needs of the residents and result in effective and appropriate social and environmental safeguards being put in place in the future development of this city.

Farhan Anwar

Introduction

Karachi, a city of 16 million is the economic powerhouse of Pakistan spread over 3,600 sq.km. Varied physical and ecological landscape, a vibrant and educated populace, an important geo-strategic locale, and a rapidly growing services sector are a few of the many attributes that provide the city with the potential of competing proudly with any other large urban center of the world. Very few large cities in the world can boast of possessing such a diverse physical and ecological landscape as Karachi. Karachi also houses a rich architectural heritage. Karachi is also the main commercial and industrial center of Pakistan. In 2007, its per capita output exceeded the countries by 50 % and the provinces by 80%. The city accounts for a third of the total national output in large scale manufacturing, 24% in finance and insurance and 20% in transport, storage and communications. However, despite all the positive indicators, it is unfortunate that due to bad governance that include unplanned and unregulated physical development and the associated pollution threats, both the natural and built environment is equally threatened. Land is no longer considered a social asset to be used for public benefit, rather it has become a commercial commodity – function having the most financial benefit, that too to a select few in society determines the land use.

The present *Study* profiles the process of unregulated commercialization of land parcels in Karachi within the backdrop of the policy decision of the City District Government Karachi (CDGK) to allow for commercialization of various traffic corridors within the city under the CDGK Change of Land Use and Master Planning Bye-Laws 2003, notified on February 12, 2004. This decision had a history to it and did not come out of the blue. As such, the author attempts to place it in the context of the overall gaps in planning and development and the associated consequences with a particular focus on the policy, management and development

aspects of urban land use change practices in the city. The various planning interventions are analyzed and it is argued that urban development plans have exercised no real control over the way the city has developed other than identifying some growth corridors. As a consequence, land is acquired and developed through means illegal and through a powerful nexus between private land developers, politicians and bureaucrats.

A most potent manifestation of this unfortunate trend is termed as commercialization of land. It basically means converting an existing land use from residential or amenity/recreation to commercial usage. A Case Study is made of the commercialization process of Shahra-e-Faisal while tracing the overall trail of commercialization in the city. Some important contributing factors to the crisis that are cross cutting in nature, having political, financial, and administrative implications are highlighted such as growing demand for commercial land parcels, weak city governments, planning and development inadequacies, mal-administration and corruption practices. A comparative analysis is done between the Karachi Development Plan 1974-85 and Karachi Strategic Development Plan 2020 to assess how government response has changed or adapted to accommodate and plan for this phenomenon. Also shared are the findings of a Public Opinion Survey that was carried out of a few selected commercialized roads. The main objective of the survey was to collect views on the commercialization of some selected major traffic corridors in the city in terms of the resulting impact on the quality of lives of the residents. Glimpses are provided, based on some available research, of some possible social and environmental consequences of the unplanned land use change associated with the implementation of the commercialization policy. The *Study* ends with some recommendations for regulating the process with interventions at the policy, institutional and implementation levels.

Farhan Anwar
Urban Planner

September, 2010

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1 SECTION

Karachi, a city of 16 million is the economic powerhouse of Pakistan spread over 3,600 sq.km. Varied physical and ecological landscape, a vibrant and educated populace, an important geo-strategic locale, and a rapidly growing services sector are a few of the many attributes that provide the city with the potential of competing proudly with any other large urban center of the world. Very few large cities in the world can boast of possessing such a diverse physical and ecological landscape as Karachi. Karachi also houses a rich architectural heritage.

Karachi is the main commercial and industrial center of Pakistan. The city has a high concentration of secondary and tertiary sectors, draws labor and raw materials from the rest of the country, and acts as the conduit for modern economic services. In 2007, its per capita output exceeded the countries by 50 % and the provinces by about 80%. The city accounts for a third of the total national output in large scale manufacturing, 24 % in finance and insurance, and 20% in transport, storage and communications. While it accounted for 14.5 % of domestic output, approximately 54 % of all central government tax revenues were collected here.

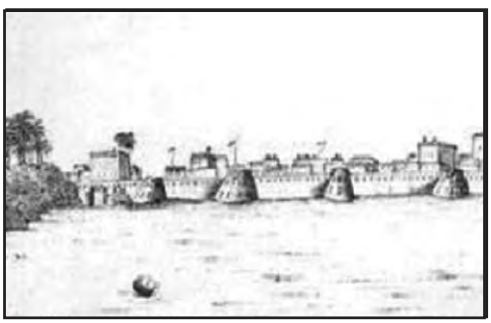
However, despite all the positive indicators, it is unfortunate that due to bad governance that include unplanned and unregulated physical development and the associated pollution threats, both the natural and built environment is equally threatened. A key misfortune has been the failure to properly channel and regulate the various types of commercial growth patterns in the city. Rather than commercial growth being made to align with the requirements of sustainable land use management, it is the commercial value of the land that is determining the land use.

Land is no longer considered a social asset to be used for public benefit, rather it has become a commercial commodity – function having the most financial benefit, that too to a select few in society determines the land use. This *Study* profiles the process of unregulated commercialization of land parcels in Karachi within

the backdrop of the policy decision of the *City District Government Karachi (CDGK)* to allow for commercialization of various traffic corridors within the city under the *CDGK Change of Land Use and Master Planning Bye-Laws 2003*, notified on February 12, 2004. This decision had a history to it and did not come out of the blue. As such, an attempt has been made to place it in the context of the overall gaps in planning and development and the associated consequences with a particular focus on the policy, management and development aspects of urban land use change practices in the city.

In the following sections, the gaps in planning and development and associated consequences are discussed with a particular focus on policy, management and development aspects of urban land use change practices in the city.

Origins and historical development – A Megapolis in the making



The City, from very humble beginnings about three hundred years ago has now grown into a throbbing, pulsating Megapolis – the sixth largest city in the world. From early times, even before the British, Karachi functioned primarily as a trading city and has since then remained a multi-ethnic city that has retained its urban character. It would be appropriate at this stage to trace in brief its historical development with a particular focus on the triggers that have led to its phenomenal growth and expansion over the years.

A strategic locale – lending a specific urban and commercial character

Karachi's origin is as a port and its historic evolution is rooted in the colonial experience. Its early growth in early 18th century was underpinned by its role as a transit trade route between the Indian peninsula, Central Asia, Africa and Eastern Europe as anarchic conditions in northern India had made the traditional trade routes from

The British discover Karachi!

t was in 1843 that Sir Charles Napier won the battle of Mianee and declared. *We have no right to seize Scinde, yet wes shall do so and a very useful piece of rascality it will be.*

But long before 1843 - as early as 1611 and 1613 - Sir Middleton and Walter Payton of the East India Company had visited Debal, the port *(which some historians still consider as the ancient Karachi)*, and a letter dated April 1629 from President Wilde at Surat read, *Synde, soliciteth us to settle a factory there; which we mean to attempt.*

Vested western interests and had already made inroads into Sind. Even as far back as 1635, Portuguese opposition had frustrated the British Trade Mission which wished to go up the Larri Bunder. Yet William Fremlin, one of the party,succeeded in reaching Thatta where he was welcomed and *'well received'*. But not until 1758 was a regular factory established by the English in Sind.

Karachi appears to have first received attention from the British in 1774 when it was visited and reported upon by Lieut. Porter. Actually, Karachi comes into prominence in 1799 when Mr. Nathan Crow, the first Englishman, received a *parvana* dated 26 August 1799 for *a spot of ground into a country house to the English Factory and four Bighas of ground for a garden outside the fort of Currachee given to the resident with exemption from land and tree tax... and it is commanded that they may be delivered to him whenever he may prefer, there being no inhabitants nor cliams of possession.*

Richard H. Kennedy M.D., the Chief of the Medical Staff with the Army of the Indus wrote in 1840: *Too great a value canot be placed on the possession of Kurracee, whether as a military and naval station or in a commercial view and everything that our Government* can do should be done without delay to improve and strengthen it... 'He described it as having a safe entrance of eleven fathoms and land-locked from every wing - *easily accessible and the only valuable port, north of Bombay...* ■

Source: Karachi during the British Era-Two Histories of a Modern City, 2007

India to Central Asia unsafe. In 1839, it was occupied by the British and used to land troops and armor for campaigns in Afghanistan to contain the Russians. In 1843, the British annexed Sindh to their empire and shifted the provincial capital from Hyderabad to Karachi and Karachi thus became an important administrative centre. Its role as an export city increased greatly when a railway linking it to the agricultural areas of the Punjab was completed in 1870. As a result of these initiatives, a number of British companies opened their offices and warehouses in Karachi and by 1868, Karachi became the largest exporter of wheat and cotton in India.

At the time of the creation of Pakistan, in 1947, in spatial terms, Karachi consisted of four distinct areas. First, the old pre-British City and its post-British suburbs consisting of narrow winding lanes, high population densities and wholesale markets. The area represented a multi-religious population profile and was collectively known as the Native City. Second, Saddar Bazzar, that basically served as the European City with residential, shopping, religious buildings for mostly the European residents - both civilians and military - but also for some Goan and Parsi communities. Thirdly, the area between these two cities consisted of administrative and civic educational institutions. Fourth, was the area of Lyari and Machi Miani housing the working classes. A diesel operated tramway linked these areas to each other and the port.

Rapid expansion - A city under stress

One major cause for urban expansion and resultant haphazard growth patterns that gets discussed here is the exponential rise in population caused mainly due to migration. These migration waves and resulting changes in the socio-economic and political dynamics of the city have also largely shaped the urban development trends that have emerged over the years. Even before the creation of Pakistan, the growth in population has primarily been due to migration, linked with economic and military reasons. Being a port city having a favorable climate enhanced its economic potential, while its strategic location added to its military significance. To cite an example, between the years 1911-1941, its population increased by 133.4% and it has been estimated that 90% of the growth between 1921 and 1941 was as a result of migration. In 1947, the population of Pakistan was 450,000 that swelled to 1.137 million by the year 1951 due to the influx of 600,000 refugees from India. By 1972, the population stood at 3,606,746 and the major cause of the increase was migration of labor class *(Pathan/Punjabi communities)* from upcountry that got integrated mostly in the transportation and construction sector as well as the police /security forces and fishing community from all over Sindh to cater to the newly developing fishing industry. If we analyze the time period between the last two censuses we find that

Karachi: Always the magnet

The remarks in Sorley's *Cities of the Bombay Presidency* Census of India 1931 Vol. IX are worth reproducing as they make us realise the dificulties of Census officers and also the size and shape of Karachi.

Karachi is a mot irregularly shaped city which appears to be continaully undergoing changes of area.The reclamation fo waste lands is responsible for this state of affairs, as also the extentions of colonies and the acquisition of lands. As Sedgwick puts it in this 1921 report, *Karachi is a mushroom city, ever expanding over a tract of sand, its edges submerged for extensive distances to different depths at differnt stages of the tide. There is a complicated cantonment boundry in the heart of the municipal area (much of it has been now handed over)... a second smaller cantonment at Manora, several outlying places as Bhaba and Bhit, of undefined extent and only partially under municipal control,and numerous distant patches of irregular shape and dsize like the municipal quarries.*

The mushrom city has grown with such vigour and strength that its growth has been termed phenomenal.

The percentile rise fom 1881 to 1931 was noticed as 261 per cent for the Municipal Area and 262.2 per cent for the whole city of Karachi. These figures are so striking that they might be considered abnormal.

Karachi did not stop growing.H.T.Lambrick's report for the Census of 1941 repeats the same story; in fact, it again created another record which was considered the most notable phenomenon of this Census. It amounted to 65 per cent which is equal to the highest decennial rate ever recorded since the decade 1881-91. ■

Source: Karachi during the British Era-Two Histories of a Modern City, 2007

38% of the population increase between 1981 and 1998 was due to migration. It is estimated that 50% of this increase was mostly due to migration from other rural and urban areas of Pakistan. In addition, between 1972 and 1978, an estimated 350,000 refugees from Bangladesh *(formerly East Pakistan)* moved into Karachi, while between 1977 and 1986, about 300,000 Iranian and Afghan refugees also settled in the city in the wake of the Soviet invasion in Afghanistan.

Table 1a - Rapid Population Growth

Year	Population	No. of year in Between	Premimum increase (%)
1931	247,791	-	2.08
1941	359,492	10	3.79
1951	1,006,400	10	10.84
1961	2,044,044	10	7.34
1972	3,606,746	11	5.24
1981	5,437,984	9	4.62
1998	9,856,318	17	3.02
2008	13, 246, 067	10	3.00

Source: The Open City: Social Networks and Violence in Karachi, 2010, Collective for Social Science Research

A city once called the 'Pearl of the East', that was a symbol of hope and harmony, that promised so much, now finds itself lo*oking forward to an uncertain future as it fights for surv*ival ami*dst growing racial, ethnic and political tensions, bad go*vernance and insecurity - *How did all this happen? The present study looks in*to a few of the contributing factors that may find an *expanded relevance* to the *large*r picture of discord and disharmony and absence of the r*ule of law* that bedevils this city – a city that refuses to die.

Planning and managing the land

Before touching upon the main topic of the *Study* it would be instructive to highlight and bring in proper perspective the major efforts at planning for the city, what they achieved, issues related with management of land and how in the absence of proper planning controls, the city has coped with the challenges of urban land development:

The Bombay Town Planning Act

In the pre-partition era, The *Bombay Town Planning Act* was promulgated in 1915 and as Sindh was part of the Bombay presidency at that time, it became applicable to Karachi. This *Act* was primarily meant for setting up and regulating new neighborhoods, as well as for streamlining the provision of public and community facilities.

The Greater Karachi Plan -1952

In response to the challenge posed by the influx of 600,000 refugees who had occupied all open space in the city center and the designation of the city as the first capital of the newly independent state, the government was anxious to develop a plan for the city's future growth and development. As a response to the need of institution building, in 1950, the *Karachi Improvement Trust (KIT)* was established that was later upgraded to become the *Karachi Development Authority (KDA) in 1957*. In 1952, *KIT* with the assistance of a Swedish consulting firm *Merz Randal Vattan (MRV)* prepared a master plan for Karachi. This plan can be termed as the first post-partition attempt at a master plan for the city. It envisaged the creation of a new administrative area that was to be linked with the old city by fast roads. It proposed the development of a Federal Capital at *Gadap* and then on the *North Karachi* hills. It also proposed a federal secretariat, legislative buildings and a University around a large independence square. The plan was not implemented mainly owing to the continuing political instability in the country at that time, inability of the consultants to establish a sound data base and lack of finances to facilitate plan implementation.

The Greater Karachi Resettlement Plan - 1958

This plan was developed after Ayub Khan established military rule in Pakistan and a decision was taken to shift the country's capital from Karachi to Islamabad. The plan was prepared by the Greek consulting firm, *Doxiades Associates* and the plan consisted of developing two satellite towns – *Landhi-Korangi* to the east and *New Karachi* to the north of the city where industrial centers were proposed to be developed. It was recommended that the refugee population be shifted to these townships with facilities for housing and employment provided for them. By 1964, the plan was abandoned despite the provision of housing and infrastructure as the pace of industrialization was slow and consequently the new satellite town could not be settled as planned. Though the plan in its letter and spirit could not be implemented, however, owing to the recommendations of this plan, the refugee settlements in the inner city were bulldozed and since no options for new housing were provided by the government, squatter settlements started taking shape with the

consolidation of what came to be known as the *informal sector* in housing. This development had a huge impact on how the city grew and developed in the coming years.

The Karachi Development Plan 1974-85

In 1967, the government of Pakistan requested the *United Nations Development Program* (*UNDP)* to assist in the preparation of a master plan for Karachi and in 1968, the *UNDP* agreed and a semi-autonomous organization known as the *Master Plan Department (MPD)* was created. Most experts agree that the *Karachi Development Plan 1974-85* was the best planning document prepared for Karachi City as it highlighted well the core planning and development challenges facing the city and also indicated with great accuracy the emerging growth trends. However, because of the non-implementation of this master plan, the gaps created in provisions of adequate, housing, transport and urban utilities by the government were left to be filled by the informal sector that expanded with various interest groups becoming suppliers of the physical, social and financial requirements of the city.

The Karachi Development Plan 2000

This plan was finalized by KDA in 1990 with the assistance of the *UNDP*. At the core of it, the plan consisted of a computer model that could monitor the developments in Karachi so as to facilitate financial investments. It suggested a detailed urban development scenario for 1986-1991 and 2000 using the data base and the model to simulate the effects on the consumption and welfare of the urban population of a number of demographic, financial, legal, socio-economic and planning factors. It also focused on institutional development that included the setting up of an independent *Karachi Division Physical Planning Agency (KDPPA)*. However, in terms of implementation, the fate of this plan was no different than the preceding ones. The proposed monitoring and related planning could not be carried out in the absence of the relevant data, for the provision of which the plan proposed no system. The plan also did not adequately assess the role of the very significant and powerful informal sector that had established itself by then and was having a critical contribution and impact on the growth and development patterns in the city. This plan also enjoyed no legal cover.

Karachi Strategic Development Plan 2020

In 2001, the government of President General Pervez Musharraf, introduced a new local government system. The *2001 Local Government Ordinance (LGO)* created autonomous *Tehsils/Towns (Sub-district) Municipal Administrations (TMAs)* and *City District Governments (CDGs)*, and made

Arif Hasan
Architect

Who are we planning for?

Cities can develop in three distinct ways. By adopting the muddle through planning scenario where you just resolve the problems as they arise without having an umbrella and an all encompassing planning document. New York and London are products of this planning philosophy. Then urban development can also be project based rather than relying on plans and be based on some basic planning principles. Bangkok is an example. Lastly, urban development could be based on specific planning and zoning principles that are to be strictly followed and implemented. We, in Karachi have adopted the third of these development options but have in effect followed in practice the first model i.e. the muddle through scenario. Planning has been on ad-hoc basis, whatever rules, plans that may have existed have amounted to nothing as the planning and implementing institutions remain weak and corrupt. The rules/bye laws also do not compliment the realities on ground. About 92% of Karachi's population lives in houses of 120sq.yrds. Are we planning to meet the housing needs of these people? How can we than force these people to follow laws that find no relevance to and do not address their needs?

With regards the commercialization of roads, the process got initiated during the era of Zulfiqar Ali Bhutto when there was a financial boom due to liquidity in banks resulting from remittances coming from overseas Pakistani workers in Dubai, Syria and Libya. The vision was of developing a modern city with high rise structures. This vision was incorporated in the 1973 Karachi Development Plan.

In the case of the present commercialization of roads policy, a powerful nexus of developers, politicians and bureaucrats was responsible for the formulation of this policy, their efforts again fuelled mostly due to the presence of access liquidity and lack of consideration of alternative investment opportunities. This is not something unique to Karachi. In many large urban centers, even in the developed world, this happens that powerful interest groups drive the policy making process. However, they implement these policies in a manner that proper planning and environmental controls are put in place to guard against or cushion any likely adverse impacts of any particular kind of urban growth and development. Here, that back up planning mechanism is missing.

Along with Raza Ali, I had proposed during the consultation process of the preparation of the 2000 Karachi Development Plan that 1) Wholesale and manufacturing outlets be shifted from the inner city to areas along the Northern By-pass 2) Creation of a commercial/city center 3) Establishment of a cultural precinct. Initially, these recommendations were approved, however, later on, were removed from the final report. Had these measures been approved and implemented, they could have gone a long way in rationalizing the urban development process in the city that includes commercial growth. ■

them exclusively responsible for municipal services in both the rural and urban areas of their jurisdictions. The *KDA* which had been responsible for the earlier planning exercises stood annulled with its functions transferred to the newly established *City District Government Karachi (CDGK)*. In 2007, the *CDGK* through the offices of the *Master Plan Group of Offices (MPGO)* appointed a local consultant, *Engineering Consultants (Pvt.) Ltd.* to formulate the *Karachi Strategic Development Plan 2020 (KSDP 2020)*. The Plan, funded under the President's *Tameer-e-Karachi Program,* was an exercise undertaken on a much reduced scale as compared to the previous planning initiatives, both in terms of the time spent on preparing the document and the finances involved. The *Plan* aimed as it put it *to set out a strategic framework and an overall development direction and future pattern of the city for the next 13 years*. It sought to establish *CDGK* as the apex planning institution with legal authority for planning and development controls over all land and buildings within the city. It focused its recommendations on integration of economic and fiscal planning with spatial planning recommending public-private partnerships for large real estate development including water front development. The plan was approved by the *City Council* and as such enjoys legal cover *(though being disputed by the Provincial Government!)* as compared to the past endeavors. There is however a concern that has been raised by independent experts that the scale of expansion envisaged for Karachi is far too large and has not been totally justified in the plan through any scientific demographic study.

Analyzing the planning interventions

The various planning exercises undertaken to date when analyzed within the context of how the city has developed quite clearly indicates that these planning endeavors have had limited impact in influencing the development patterns in the city. There are a number of reasons why this has happened. Some of the key contributing factors are discussed as follows:

Absence of continuity: The planning process has remained mostly detached from the existing ground realities and no real effort has been made to base a planning exercise from lessons learnt in the past. Every new planning document has brought a new direction to the planning approach while in the intervening period no effort has been made to continuously update the data base. Master planning has been treated as a one- time effort rather than as a continuously evolving process. As a result, most of the planning assumptions and recommendations were based on incomplete, faulty and outdated data.

Absence of implementing and financing mechanisms: All the planning exercises in Karachi have been undertaken under the auspices of the *(now defunct)* KDA that has never had any legal or administrative control on the many other land development agencies functioning in the city. Similarly, the planning authority has never been the financing agency or authority for ensuring implementation.

Absence of political mandate: Other than the recently approved *(City Council) Karachi Strategic Development Plan 2020*, no other plan has enjoyed legal cover or mandate. This has been mainly due to the fact that land has come to be associated with corruption, political patronage and has since long been considered as a financial commodity rather than as a means to deliver social good. Providing legal cover to the planning document deprives the corrupt political and bureaucratic entities of the discretionary powers that they would otherwise enjoy and through which they can by-pass rules and regulations. These discretionary powers are essential to buy and reward political support and use land as a financial commodity.

Absence of stakeholder consultation: There has been extremely limited public input that has gone into the preparation of the plans. During the *KDP-1973-85* and the *KDP-2000* for example, key stakeholders that included transporters, shop keepers, estate agents, brokers, dealers, religious and political groups, professionals, developers, businessmen were not engaged in any meaningful consultation process.

The dynamics of urban land management

The dynamics of urban development and management is highly complex. From a mere 13 sq.km. in 1870, the urbanized area of Karachi has now spread to 3,600 sq.km with 1,300 sq.km. built up area. In the city district, land control is fragmented into about twenty *(20)* federal, provincial and local agencies with overlapping powers/functions and no effective mechanism for coordination. The allocation of land, demarcation of plots, regulation of transfer and sale, zoning of land and delivery of services are functions that are scattered between different land holding agencies, regulatory and development authorities. For e.g. each land owning agency has the authority to allot land to developers and approve plans under the guidelines outlined in the *Karachi Building & Town Planning Regulations 2002 (KB&TPR 2002)* for housing schemes, industrial use or commercial purposes. The KBCA is responsible to oversee that the land development process and construction activities do not violate the KB&TPR 2002.

Table 1b - Karachi: Land Use

S. No.	Agency	Percentage of Total
1.	City District Government Karachi	30.9
2.	Malir Development Authority	3.9
3.	Lyari Development Authority	5.6
4.	Cantonment Board	2.1
5.	Defence Housing Authority	5.0
6.	Kirthar National Park	20.7
7.	Port Qasim Authority	1.5
8.	Karachi Port Trust	2.8
9.	Pakistan Railways	0.4
10.	Private land	3.9
11.	Government of Sindh	17.7
12.	Government of Pakistan	0.5
13.	Cooperative Housing Societies	1.8
14.	Sindh Industrial Trading Estate	0.6
15.	Recent Allocation (Industrial Education etc.)	2.7
	Total	100

Source: Karachi Strategic Development Plan 2020

The systems in place for land management require that land for development is transferred from the Government of Sindh *(GoS)* or other official land owners to land development authorities. Originally it was the KDA – now defunct whose functions now are one of the many responsibilities of the CDGK and to the Lyari Development Authority *(LDA)* and the Malir Development Authority *(MDA)*. These authorities are then required to enact policies, plan and develop the land as per their rules and regulations and also make available plots to private developers, cooperative societies and individuals for construction purposes. Land is also required to be allocated for social and physical infrastructure development and for commercial and recreational purposes. Construction on all development authority schemes can only take place after the preparation and approval

of building plans that have to follow Karachi Building Control Authority *(KBCA)* rules and regulations. The introduction of public land into the market follows three formats. The first is balloting; after the scheme is publically announced, applications are invited *(from the general public)*, and are selected through computer balloting. The second method is allocation; interest groups (individuals, developers, trusts, welfare organizations, corporate organizations foundations etc.) approach the land owning agency and request for allotment. The third is auction; an auction schedule is publically announced and interested groups (individuals and corporate) take part to bid in the auction. The highest bidder becomes the owner of the land.

Consequences of unplanned development

Urban development plans have exercised limited direct control over the way the city has developed. As a consequence, land is acquired and developed through means legal and illegal through a powerful nexus between private land developers, politicians and bureaucrats.

KDA Scheme#33 – Greed knows no bounds!

In the Corridor Plan of KDA Scheme #33, 80% of non-residential land was set aside for amenities, 20% for commercial purposes. The entire area reserved for amenities got converted into residential/commercial uses - as a result, the city lost over 827.3 acres of amenity spaces including 189.27 acres allocated for parks, 73.6 acres for educational institutions, 66.5 acres for medical facilities, 54.23 acres for transport facilities. ■

Source: Understanding Karachi, Planning and Reform for the Future

Land use is often violated through encroachment of land meant for recreational and amenity purposes, encroachment of drains/nullahs and infrastructure provisions, converting land use from residential to commercial, changing of the plot ratio and other building regulations such as reducing the compulsory open spaces etc. Land is often sold at throwaway prices as a means of political patronage. One impact that also has had repercussions on the now emerging commercial growth patterns has been the densification of the inner city.

If one can narrow down the trends associated with the urban growth of the city that have had the most impact in terms of straining the infrastructure, fouling the aesthetics of the city and contributing to

enhanced environmental stresses than two particular aspects of the growth can be identified – increased densification, mainly of the inner city and the proliferation of squatter settlements *(Katchi Abadis)*.

Spread of Katchi Abadis: The Katchi Abadi's have existed from the time of the creation of Pakistan, with the inadequate and also inappropriate response of the government policies to the problems of housing the poor leading to the development of what is now termed as the informal sector. Illegal sub-division of land took place as early as 1950 in Karachi. However, it was during the 1970's that using regularization and upgrading of the Katchi Abadis became politicized. The *Katchi Abadi Improvement and Regularization Program (KAIRP)*, was started in 1973. This encouraged and gave fresh impetus to the development of Katchi Abadis serving as a powerful and potent vote bank for aspiring populist politicians. At present it is estimated that almost half of the city population resides in Katchi Abadis. Of the one million houses in the Katchi Abadis of Pakistan, 680,000 or 68% are in Karachi.

Densification of the Inner City: In the 70's high rise buildings were promoted and plots were given to the developers at subsidized prices so that they could build apartments. Bridge financing was also provided through the recently financed banks to the building firms. Building bye-laws were suitably amended so as to increase the building heights and reduce the requirement for compulsory open spaces. Thus a very powerful and influential developers lobby was created that helped transform the city's landscape in that the inner city was densified, straining the already stressed civic infrastructure with the creation of vertical slums. It was also at that time that mass scale migration of Pakistani laborers, professionals and entrepreneurs to the Gulf States was taking place. The remittances that accrued were mostly invested in real state – in urban land, housing etc. This increased cash flow also gave rise to a consumer class and need for wholesale and retail markets for consumer goods arose. These were developed in an unplanned manner mostly in the inner city thus adding to the chaos and further altering the land use of the area.

Table 1c - The Population Spread

Town Name	2005 Population	Acre	Densification (Persons/acre)
Saddar	935,566	5,967	157
Jamshed	1,114,235	5,790	192
North Nazimabad	753,423	4,127	183
Gulburg	688,580	3,417	202
S.IT.E	709,944	6,286	113
Shah Faisal	509,915	2,901	176
Gulshan-e-Iqbal	949,351	13,260	72
Landhi	1,012,391	9,670	105
Korangi	829,813	10,247	81
New Karachi	1,038,865	5,058	205
Cantonment	464,882	31,336	15
D.H.A	379,596	9,454	40
Baldia	616,722	7,217	85
Malir	604,763	4,395	138
Orangi	1,098,859	5,803	189
Bin Qasim	480,854	137,961	3
Keamari	583,640	106,217	5
Gadap	439,674	355,798	1
Lyari	923,176	1,977	467
Liaquatabad	985,581	2,685	367
Total	15,119,830	729,566	-

Source: Karachi Strategic Development Plan 2020

Section 2

Commercialization of roads

the policy to implementation cycle

2 SECTION

A major outcome of the unplanned and mostly unregulated growth of the city has been that urban land uses have for long been determined by private interests *(in collusion with the state)* and as a result, commercial interests have far outweighed concerns for linking land use with social and environmental good of the city. A most potent manifestation of this unfortunate trend and that is also the subject of this *Study* has been what is termed as *commercialization* of land. It basically means converting an existing land use from residential or amenity/recreation to commercial usage. Before discussing the details and implications of the particular case of commercialization that forms the focus of this *Paper*, it would be appropriate at this stage to highlight the general background of commercialization in Karachi.

Tracing the trail of commercialization

Prior to 1975, commercialization of residential plots was allowed by the relevant authorities as part of the policy enunciated in the provisions of the *Karachi Building Regulation 1961*. During the period 1975-1999, commercialization of 380 residential plots was allowed. Initially, a scheme for regularization of residential plots facing the main *Shahra-e-Faisal* from *Aisha Bawani School* upto *Malir Bridge* was allowed vide *Sindh Government Gazette dated April 13, 1978* with original plot ratio increased from lease conditions 1:0.66 to 1:3 *(five-fold increase)*.The *Karachi Building and Town Planning Regulations* were framed in 1979 and subsequently, the *Governing Body* of the *(defunct) KDA* vide *Resolution #220, dated May 11, 1980*, legitimized the earlier *GoS* directive on *Shahra-e-Faisal*. The *Minister of Housing and Town Planning, GoS* held a meeting in 1989, wherein this policy was adopted and the *Governing Body* of the *KDA* vide *Resolution #215, dated November 28, 1990*, allowed commercialization of six major roads, increasing the commercialization rates and further increasing plot ratio from 1:3 to 1:4 *(six-fold increase from the original)*. An ambiguous policy on commercialization was pursued by the political governments in the 1990's where though commercialization was *banned* but also *relaxed* in some case to accommodate political interests. However, the *GoS* vide *Notification dated July 20, 1998*, removed the ambiguity by declaring once again that on six major roads *(including Shahra-e-Faisal)*, commercialization of residential plots may be allowed.

The *KBCA* allowed commercialization as a result of the above mentioned *GoS* policy till *November 24, 1999* when in a meeting of the *Governing Body* of the *KDA*, all the cases of commercialization were put in abeyance

for want of a comprehensive commercialization policy. Earlier, the *Governing Body* of the *KDA*, in a meeting held on *June 15, 1999*, directed vide *Resolution #94* to study certain aspects of commercialization that included:

- Approved commercial facilities available in the vicinity
- Are the approved facilities fully developed to cater to the need of the area
- Spelling out of the environmental impact and other repercussions if the ro ads are commercialized
- Preparing of the terms and conditions and town planning requirements, provided the commercialization is suggested

It was further resolved that in the future, all the cases of commercialization be initiated, processed and finalized by the *Master Plan Department* of the *KDA*.

This recommendation was further enforced by the *Governing Body* of the *KDA Resolution #162 (November 24, 1999)* that directed that:

KDA shall conduct a full-fledged study on the requirement and impact of commercialization on the infrastructure, utilities and environment which will be discussed in the Governing Body and recommendations for declaring the specific areas for commercialization will be sent to the government. Till such time the government may be requested to suspend implementation of Notification # PS/DS/(B)/S&GD/4808/98 dated July 20, 1998

Furthermore, the *Director General KDA*, in his letter dated *January 7, 2000* conveyed the *Order of the Governor of Sindh* that read: *Master Plan Department, KDA to formulate its recommendations on the requirements and impact of commercialization on the six declared commercial roads of the city by February 15, 2000, so that the commercialization policy be chalked out to meet the ever increasing requirement keeping in view the infrastructural facilities, availability of utility services, impact on environment and in the best interest of the city/public at large*

In compliance with the *Governor's Order*, a *Study* was completed by the *Master Plan Department* and submitted to the *Governing Body* of the *KDA* on May 2, 2000. In response to the findings, the *Governing Body* of the *KDA* vide its *Resolution #28, dated May 2, 2000* directed as under:

It was further resolved that a survey of conversion of residential into commercial plot in different parts of Karachi be carried out starting from North Nazimabad, report on which should be submitted to the Governing Body within one month along with proposals for regularization

The *Master Plan Department* subsequently made several studies/surveys on these directives of the *Governing Body* of the *KDA* on different aspects of commercialization. The results/recommendations of the studies were presented before the *Governing Body* of the *KDA* during the time period of May 2, 2000 to February 15, 2001. Finally, the *Governing Body* of the *KDA* in its meeting held on February 15, 2001 assigned the *Master Plan Department* to carry out a study in a *Pilot Project Area (P.E.C.H.S and the adjoining area)* for the formulation of the policy for the commercialization of the plots. This *Governing Body Resolution #22 of February 15, 2001* stated as under:

Director MP&EC, KDA presented a proposal prepared for conducting a comprehensive survey for commercialization of P.E.C.H.S and adjoining areas as a pilot study. Once the results/approach of the pilot study are approved, the same will be adopted for other areas of Karachi. The concept was approved with the modifications that the time frame for submitting the detailed survey should be 8 to 12 weeks instead of 4 to 6 weeks. It was further resolved that facilities lake manpower, transport, POL etc. should be provided to Director MP&EC in order to ensure the timely completion of the exercise/survey

In 2001, the government of President General Pervez Musharraf, introduced a new local government system. The *2001 Local Government Ordinance (LGO)* created autonomous *Tehsils/Towns (Sub-district) Municipal Administrations (TMAs)* and *City District Governments (CDGs)*, and made them exclusively responsible for municipal services in both the rural and urban areas of their jurisdictions. The *KDA* which had been responsible for the earlier planning exercises stood annulled with its functions transferred to the newly established *City District Government Karachi (CDGK)*. The *MP&EC* Department submitted the commercialization policy on May 25, 2002 to the *CDGK*.

The pilot study on whose findings was based the commercialization policy recommended the following:

- Sanctity of the approved layout plans be maintained
- Commercial zoning not found feasible
- Modest level of commercialization in view of the orders of the Honorable Courts and Honorable Ombudsman may be allowed
- Commercialization activities under the range *(commodities of daily uses)* may be allowed inside the neighborhood such as:
- Grocery stores, medical stores, barber shops/beauty salons, bakeries, fruit/vegetable shops, meat shops, books/newspaper stalls without effecting the living environment
- 10% of the allowable covered area may be permitted for above uses

The *MP&EC* suggested certain pre-conditions for commercialization. It recommended that commercialization can be allowed only if:

- The revenue collected from the commercialization will be kept in separate account and used for the enhancement of services and carrying capacity of infrastructure of the area
- Development work will be executed through the *Town Government* or as deposit work by the concerned utility agency
- Ample car parking space be provided on suitably located plots in the vicinity to avoid traffic congestion
- Solid waste management should be ensured
- Rules for noise and air pollution should be strictly enforced

Subsequently, the *CDGK* met under the Chairmanship of the *City Nazim* on October 15, 2002 and approved the recommendations of the *Master Plan Group of Offices (MPGO), CDGK*, for the commercialization in a phased manner. The *Law Department, CDGK* was asked to suggest how the *GoS Notification dated July 20, 1998* allowing the commercialization of plots on six major roads can be re-instituted and implementation of commercialization allowed *(in the presence of the Governing Body Resolution #162, dated November 24, 1999 withholding the said Notification)*.

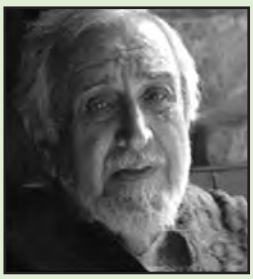
The CDGK commercialization policy

Upon the clearance from the *Law Department*, the *CDGK Change of Land Use and Master Planning Bye Laws 2003* were notified on February 12, 2004, whose salient features are as follows:

Procedure for change of land use

- The application for change of land use will be made to the *Union Administration* and the *Master Plan Department* simultaneously and besides this for the information of the general public for the change of land use, advertisements will be published in at least two different newspapers asking for any objections from the public that would require to be sent to the *Union Administration* and the *Master Plan Department*
- Within 30 days of receiving the application, the *Union Council* in its meeting shall approve or reject the application
- In case of approval by the *Union Council*, the *Union Nazim* shall issue a *No Objection Certificate (NOC)* to the *Master Plan Department*. In case of rejection by the *Union Council*, the reasons for rejection shall be provided to the applicant as well as to the *Master Plan Department*
- If even after 25 days, if no decision has been intimated to the *Master Plan Department* by the *Union Nazim*, then it will be assumed that

Ardeshir Cowasjee
Citizen Activist



Commercialization of Shahra-e-Faisal: A Case Study

The dynamics of the commercialization process in Karachi, how it has deviated from standard urban planning principles, how discretion has been employed at the cost of people friendly urban planning has been aptly encapsulated in a Report documented by Mr.Ardeshir Cowasjee, a former Member of the KDA Governing Body, prepared by the KDA Governing Body, dated September 5, 2000. Excerpts from the Report are documented as follows:

A sub-committee was set up by the Governing Body of the KDA at its 12th meeting on November 8, 2000 to examine:

- The issue of commercialization of Shahra-e-Faisal
- The six pending applications on "commercialization"

The Committee met on November 15, 2000 and found the following:

- No detailed technical master planning studies, or evaluation of the impact on the surrounding residential areas or assessments of the additional infrastructure/amenities required etc. was made by MP&EC before KDA declared the roads as commercial
- Corrupt governments misused discretionary powers to commercialize in violation of rules to impose bans and to relax bans to favor party members, cronies and friends. None of these relaxations were in the public interest
- There were 207 residential plots on Shahra-e-Faisal. Of these 56 (27%) have been commercialized, and 151 are still residential
- An approximate amount of Rs. 168 million (56 plots *1500 sq.yrds. average*Rs.2000 per sq.yrd.) have been collected by the KDA/KBCA as commercialization fees on Shahra-e-Faisal alone. None of this was used to augment the electricity, water, sewerage, roads, parking or other infrastructure/amenities capacity on Shahra-e-Faisal. All of the money was used to pay for the salaries and overheads of KDA/KBCA

- The original lease/land grant plot ratio was 1:0.66. This was increased to 1:3 in 1978 and so included in the SBCO 79

regulations. The KDA Governing Body subsequently increased this plot ratio to 1:4. No detailed study of the implications of these ad-hoc increased densifications was carried out before allowing higher plot ratios

- The law (SBCO 1979 Regulations &KDA Order 1957) require a mandatory procedure to be followed for change of land use ... that was reinforced by the Supreme Court 5 member High Bench in its land mark 1999 judgments on the Glass Towers (1999 SCMR 2089) and Costa Livina (1999 SCMR 2883)... The majority of the 56 residential plots commercialized over the past twenty years seem not to have followed the above mandatory procedures. In some cases, the lessor (Federal Ministry of Housing & Works, Pakistan Railways, KMC etc.) have not even forwarded or approved the change; in most cases, no technical justification or examination of the locally available facilities or infrastructure was made; also in almost no cases was a display type public notice given inviting objections; the approval of MP&ECD has also not been obtained
- Almost all the 56 unlawfully commercialized buildings have developed into unauthorized and potentially dangerous buildings as stated by a KBCA Public Notice. As a typical example, although the approved plot ratio on Fortune Towers, plot 43-1, A/6 P.E.C.H.S is 1:4 the illegal building has presently been constructed to a plot ratio of 1:13!!
- The increased densification resulting from this commercialization (and illegal construction) has overloaded the utilities, roads and other infrastructure/amenities in the area. Residential plots adjacent to the commercialized plots are suffering the most, with:

o destruction of privacy and easement rights

o public nuisance for the residential neighborhood

o overload of the utilities (water,electricity,sewerage)

o blockage of drive ways and roads with spill over parking

o noise pollution from commercial activity and generators

o lowering of residential property values, etc.

...For the six pending applications for commercialization of residential plots on Shahrah-e-Faisal, conversion is only being sought in order to make money. There has been no technical justification submitted. There does not seem to exist any legitimate pressure for commercialization on Shahrah-e-Faisal. ■

the *Union Council* has approved the application and the *Master Plan Department* will proceed accordingly

- If the *Master Plan Department i*s not satisfied with the decision of the *Union Council* then the matter would be referred to the *City District Council Committee*
- In case of approval of the application, the *Master Plan Department* will issue a *Challan* according to *Schedule #1* and Bylaws for the change of land use and the is to be *Challan* valid for 10 days. After the verification of the paid *Challan* by the Bank, the authorized officer of the *Master Plan Department* will issue the *NOC* along with the attested approved plan to the applicant within three days. A copy of the *NOC* will also be sent to the relevant *Union Administration* and the land owning agency

Restrictions

- Only a leased property shall be allowed permission for change of land use
- The converted plot will not be used for environmentally degrading activities such as manufacturing, storage of dangerous or inflammable material or cater to the service of the transport sector etc.
- Land meant as a parking space and being utilized for other purposes at the time of conversion would have to be restored as a parking space
- On land left for possible future extension of the road, no construction would be allowed
- Within a radius of • miles i.e. 1.2 km. from the *Mazar of Quaid-e-Azam*, no building higher than 91 ft. *(27.72 m)* shall be allowed to be constructed from the podium level
- On the adjacent roads and footpaths of the *Commercial Area*, hawkers shall not be allowed to occupy land and operate

Management of income generated from change in land use

- A separate bank account to be maintained for the income generated from the change in land use
- Of the amount received, 75% will be utilized with consultation of the concerned *Union Administration* for development works in the area and the remaining 25% amount to be spent for the professional expenditure of the *Master Plan Department*

City District Council Committee

- The *City District* would form a seven *(7)* member *City District Council Committee (representation of two lady councilors)* with each member to exercise one vote in the *Committee*. The *District Administration*

Dr. Noman Ahmed
Chairman, Department of Architecture & Planning,
NED Engineering University

No room for planning logic!

In the 1974-85, Karachi Development Plan, the need for sub-centers to cater to the potentially increasing demand for commercial growth had been recommended. However, the recommendation was not followed through in an organized and planned manner. In the 2000 Karachi Development Plan, commercialization that had already taken place was accommodated through the relevant recommendations and the main decisions in this regard were left to the policy makers. However, the 2020 Karachi Strategic Development Plan was a complete turnaround in the sense that it actually promoted the development of new commercial growth corridors in an aggressive manner. During this period and particularly during the past five or six years the rapid commercial growth has basically been fuelled by the availability a large amounts of fluid capital and limited investment opportunities. This is what also happened during the Zia years when the first major push for commercializing major traffic corridors was initiated.

I was part of a Committee of independent experts that had been formed when the present commercialization policy was being debated. The Committee had recommended considering the option of block commercialization instead of ribbon commercialization and had suggested that a proper feasibility be prepared taking into account the availability of civic utilities, impact on the traffic volumes, environmental and social repercussions etc. The implementation of the land use plan in the block identified for commercial land usage has to be preceded by infrastructure rehabilitation and development. The Committee opposed ribbon commercial development on the grounds that such a development in addition to having an undesired impact on the main corridors ultimately penetrates inwards anyway and impacts adversely on the residential areas and creates a haphazard land use dynamics that is totally unplanned. Even under a Public Opinion Survey in P.E.C.H.S conducted by KDA at that time, 80% of the residents polled had opposed commercialization. However, this inconvenient statistic was encountered by KDA on the argument that since there is no record of residents filing any cases against commercialization projects, they are agreeable to the proposed land us change! Later on, this survey and its results were used to form the justification and basis of formulating the 2004 Commercialization Policy. It is ironic that though the builders and developers lobby had been instrumental in influencing this policy decision, ribbon development leads to a restricted pattern of development that is not totally desirable for a builder whereas in case of block development, civic infrastructure such as water/sewerage can be designed to serve the whole neighborhoods rather than just a particular road.■

List of Roads Commercialized by the City District Government Karachi as per the Sindh Government Gazette Notification (Change of Land Use and Master Planning Bye Laws – 2003 vide Resolution No. 383 dated 06-0102004) issued Thursday, February 12, 2004

1	Hotel Metropole to Malir Bridge – Shahra-e-Faisal
2	Tariq Road (Allah Wala Roundabout) to Bahadurabad Commercial Area and Sindhi Muslim Society to Shahra-e-Faisal (Capt. Farid Bukhari Road)
3	Rashid Minhas Road Scheme No. 16/24 and 36 (Drive In Cinema to Shafiq Mor)
4	University Road Scheme No. 24/36 (Civic Center to Safora Roundabout)
5	Shahra-e-Pakistan Scheme No. 16 (Tin Hatti Bridge to Sohrab Goth)
6	Nazimabad A Road (Lasbella Bridge to Circular Railway Line)
7	North Nazimabad (300 ft. wide road) Shahra-e-Sher Shah Suri (Board Office Roundabout to Sakhi Hasan Roundabout) - Block B to N, Block A to J
8	North Nazimabad – Shahra-e-Jehangir (Nazir Chaman ST -12 Block H to Clinic ST- 2 Block H adjacent ST -1 Taimuria Library Block L to Bagh Mahabat Khan Plot ST -8, Block L
9	Khyaban-e-Iqbal, Clifton Road Bridge to Do Talwar (Plot No. G-1 to ST-12 Park adjacent Columbus Hotel to G-8
10	Khyaban-e-Jami (Plot No. ST-10 to ST-13 adjacent ST-12 parking to ST-13
11	Khalid Bin Walid Road (Plot No. K-107 to 168/G Church)
12	Jamal Uddin Afghani Road (TV Station to Plot No. 1 – either side adjacent to Shaheed-e-Millat Road)
13	Allama Iqbal Road (P.E.C.H.S. Kashmir Road to Jheel Park)
14	Sir Syed Road (Tariq Road to Khalid Bin Walid Road)
15	Shaheed-e-Millat Road – P.E.C.H.S. (Haider Ali Road to Jail Roundabout)
16	Choudhri Khaleeq-uz-Zaman Road Block 8/9 (Askari Market to Choudhri Khaleeq-uz-Zaman Colony)
17	Beach Avenue Road (Darakhshan Police Station to Casino Roundabout)

Officer of the *Master Plan Department* to act as the *Secretary* of the *Committee*

- The *Committee* to convene after every two months to review progress of work related to the change in land use, and discuss future plans. The *Committee* to make decisions in this regards and forward the same to the *City Council*
- The *Committee* to have the power to recommend change in land use in any locality or road in Karachi to the *City Council*
- In case of a dispute in connection with the change in land use between the *Committee* and the *Master Plan Department*, the matter in dispute to be referred to the *City Nazim, CDGK*
- In case of the absence of the *City District Council Committee*, the *Nazim, CDGK* to form a seven *(7)* member *(representation of two lady councilors)* Committee within a period of 30 days

Repeal of Laws

- With the enactment of these laws, all acts, ordinances, regulations or resolutions pertaining to the conversion of land use, regarding the defunct KDA, Defunct KMC, MDA, LDA and the KBCA that are in conflict with these bye-laws would stand dissolved

A total of 17 roads *(6 in Phase I and 11 in Phase II)* were identified for commercialization. The schedules for commercialization fees/rates for various land areas were established as were some penalties in case relevant laws and regulations were violated by the applicant after approval had been granted for change in land use.

The CDGK commercialization policy: Charting its own course! Promoting illegal land encroachment

If we analyze the process of commercialization as spelled out in the *CDGK Change of Land Use and Master Planning Bye Laws 2003,* then it is quite evident that a key first step as required by the *The KDA Order # 5 of 1957 (Articles 40 & 52-A) and the Sindh Building Control Ordinance 1979 Regulations (Part II Schedule D, Section 3 and 4)* that requires a plot owner to apply to lesser/concerned authority with full technical justification, considering planning of the area, existing commercial facilities, road widths, traffic flows, infrastructure, etc. has not been followed. In this regard, comments of a former *Director MP&ECD,* copied in a *Note* of *Mr.Ardeshir Cowasjee,* a former *Member* of the *KDA Governing Body,* written for the *KDA Governing Body,*

dated September 5, 2000, makes for interesting reading and in a way reflects the thought processes of successive relevant policy makers on this issue: It is stated by the said official that *when a road is declared for commercialization, the first step (of technical justification, with evaluation of the utilities/infrastructure available) is not necessary before granting commercialization approval on a plot basis under the law. He feels that this requirement of evaluating the availability of utilities/infrastructure is achieved when utility NOC's are issued at the building plan approval stage, after the plot is commercialized.* It is further quoted in the *Note* that *the question of commercialization has nothing to do with its subsequent construction of an illegal building on the plot.*

Does public opinion really matter!

As has been mentioned in the earlier text, the *Commercialization Policy* was based on the findings of a *Pilot Study* of P.E.C.H.S. First of all this decision of basing the policy for converting the land use of 17 major traffic corridors spread over a vast section of the city , on the findings of a study conducted in one specific locality finds no reason or planning sense. The public opinion, existing land use, status of the civic utilities, spatial classifications may all vary from place to place. However, what is even more baffling is the fact that 80% of the households interviewed in the *Pilot Study* in P.E.C.H.S. opposed commercial activities on residential plots, 85% of the households interviewed were of the view that high rise buildings are a problem while 80% of the households interviewed opposed commercialization in the P.E.C.H.S area! ■

It is therefore interesting to note that in the subsequent revision of the town planning regulations, *The Karachi Building and Town Planning Regulations 2002,* this requirement of assessing the technical feasibility etc. of land use conversion is done away with. This was done despite a number of recommendations of the *KDA Governing Body, the MP&EC, Orders of the Governor of the Province* to the contrary. The final act of omission was the repeal of all acts, ordinances, regulations or resolutions pertaining to the conversion of land use, regarding the defunct KDA, Defunct KMC, MDA, LDA and the KBCA that were found in conflict with the *CDGK Change of Land Use and Master Planning Bye Laws 2003.*

Notes on Proposed Commercialization of Six Corridors (Arif Hasan)

A. The Six Corraidors cannot be seen in Isolation

The Government of Sindh wishes to commercialize six corridors in Karachi. This involves a land use change from residential to commercial. Strictly speaking, such commercialization cannot take place without a public hearing. However, informally, commercialization has been taking place along these corridors and behind them. The government wishes to regularize this land use change and to grant permission for the future. This proposed commercialization cannot be seen in isolation from what is happening to the built environment in the rest of Karachi. What needs to be taken into consideration is:

- The city has no structure plan and as such zoning regulations are bound to be irrational and unrelated to ground realities
- Relevant regulations determining the location, size and grading for schools, industrial activity and other social amenities do not exist. As such these activities have developed in an ad-hoc manner all over the city and not only behind or along these corridors
- Space for warehousing, cargo terminals and the services sector to transport terminals, depots, workshops has also not been formally developed. These too have also developed in an ad-hoc fashion in all over the city and especially along some of these corridors creating traffic congestion and environmental degradation
- The absence of housing facilities and related social and physical infrastructure for low and middle income groups is densifying existing settlements and creating slum like conditions

Permitting commercialization on these corridors without a proper exercise will increase the above trends and make Karachi more unlivable

B. Repercussions of Commercializing the Corridors

Apart from the repercussions mentioned in 'A' above, the commercialization of the corridors will result in the following:

- The volume of traffic on these corridors will increase considerably making these corridors difficult to cross
- Three of these corridors are also exits to the city and all of them lead to low and lower middle income settlement from work areas. Their congestion will increase travel time for poor commuters and create problems in exiting the city
- Pressure for commercialization also in corridor form on areas behind them will increase, creating a city of high density ribbons of commercial, industrial and service sector development. These will cause environmental degradation and disturb land and real estate values

- The absence of infrastructure will create problems for sewage disposal, water supply and electricity, further burdening an already overtaxed system

C. What Should be Done

If the corridors have to be commercialized, the following is necessary:

- Only one side of the corridors should be commercialized, including the area behind that side
- Limits to that commercialization in linear terms should be identified
- With revenues from commercialization, plots should be acquired for amenities, car parking and other related functions
- The land use changes that have taken place should be clearly identified. Those that are not environmentally degrading should be regularized and others should be offered alternatives through a re-development plan. Still others should not be regularized and given the option of moving out into other areas where they are developed in consonance with a Karachi structure plan ■

The *CDGK Change of Land Use and Master Planning Bye Laws 2003* has been sourced from the *Karachi Building and Town Planning Regulations 2002* and from a list of decisions/ recommendations of the *KDA Governing Body* and the *MP&EC* from the time period of 1999 to the notification of the *Bye-Laws* in 2003. However, even here a number of key recommendations have not been incorporated. These deviations are discussed as follows:

· As one of the pre-condition for commercialization, it was recommended by the MP&EC that *the revenue collected from the commercialization will be kept in a separate account and used for enhancement of services and carrying capacity of infrastructure of the area.*

· However, in the *CDGK Change of Land Use and Master Planning Bye Laws 2003*, only 75% of the revenue was proposed to be spent on development works in the area while the remaining 25% were directed to be used for meeting the expenses of the *Master Plan Departments*

Policies, regulations and judicial interventions: Do they really matter?

The earlier discussion seems to give ample evidence of the fact that the decision making processes regarding land use in Karachi are not governed totally within the ambit of any overarching planning controls. Use of discretionary powers and close door decision making processes, not finding any recourse to the related social and environmental considerations characterize the way policies are enacted and implemented. It therefore comes as no surprise that the *CDGK Change of Land Use and Master Planning Bye Laws 2003* are found by-passing or ignoring altogether some key relevant recommendations made earlier in various city planning documents and even to the recommendations made in the meetings and discussions held prior to the finalization of the *Bye-Laws*. In addition, not paying heed to some landmark court judgments on the related consequences of their actions. It would be useful at this stage to acquaint ourselves with the relevant planning recommendations and court judgments made in the past that include the following:

- Sindh Town Planning Act 1915
- Karachi Development Authority Order 1957
- Karachi Building Regulations 1961??
- Sindh Building Control Ordinance 1979
- Karachi Building and Town Planning Regulations 1979
- Karachi Building and Town Planning Regulations 2002

The Sindh Town Planning Act 1915 while laying down the requirements for modifying a town planning scheme *(Variation of Scheme)* mandated the following:

- Local authority may apply to government for variation of the scheme - *Section 45 B (1)*
- Government to publish a draft of variation – *Section 45 B (2)*
- Copy of variation plan to be open to the inspection of the public at the head office of the local authority – *Section 45 B (4)*
- Acceptance of public objection by the government over a period of one month – *Section 45 B (5)*
- Notify the amended variation in the Official Gazette – *Section 45 B (6)*

So speaks the court of law

The Supreme Court has upheld the sanctity of land use in numerous landmark judgments. Some important examples are cited below:

Glass Towers (1999 SCMR 2089)

"However, we would like to add that simpliciter the fact that the conversion of a residential plot on a main road into a commercial plot is warranted on account of the change in the situation would not justify the violation of any provision of any law or building bye-laws or regulations. Nor it would warrant grant of permission for a high rise building having 17/18 floors. The Government, or the Authority concerned is under obligation to decide the question of number of floors keeping in view the extent of availability of utility services like water, electricity, gas sewerage lines, streets and roads in the locality involved and the permission for construction of a proposed building should be of minimum floors, which may cause minimum inconvenience and discomfort to the residents of the locality...."

Costa Livina (1999 SCMR 2883)

"We may observe that even the conversion of a residential plot on the main roads into a commercial plot is warranted on account of change in the situation, the legal requirements of public notice, inter alia, as envisaged by Article 40 of the KDA Order (if applicable) and Para 3 of Schedule D to the Regulations is to be complied with. Secondly, simpliciter conversion of residential plot into commercial does not warrant granting permission for a high rise building having 17/18 floors, but the Government or Authority is under obligation to keep in view the quantum of water, electricity, gas and sewerage lines, streets and roads etc. available in the locality involved and efforts should be made to allow minimum floors so that the same may cause less inconvenience and discomfort to the inhabitants of the locality involved.... The paramount object of modern city planning seems to be to ensure maximum comforts for the residents of the city by providing maximum facilities and that a public functionary entrusted with the work to achieve the above objective cannot act in a manner, which may defeat the above objective. It has been further held that deviation from the planned scheme will naturally result in discomfort and inconvenience to others..."

The KDA Order # 5 of 1957 (Articles 40 & 52-A) and the Sindh Building Control Ordinance 1979 Regulations (Part II Schedule D, Section 3 and 4) mandate a number of sequential steps for conversion of land use:

Step 1: Plot owner to apply to lesser/concerned authority with full technical justification, considering planning of the area, existing commercial facilities, road widths, traffic flows, infrastructure, etc.

Step 2: Issuance of public notice inviting objections by the authority, and the conduct of public hearings

Step 3: Consideration of the above by the *KDA Master Plan & Environmental Control Department* before making its determination

The Karachi Building and Town Planning Regulations 2002 Section 18-4.2.2 (Change of Land Use of Residential Plots) states that:

The applicant shall apply and pay necessary fee to the concerned authority for change of land use of the plot with full justification, which shall examine the application in the light of the planning of the area and forward it to the MP&ECD for consideration

According to Section 18.5.1.1 *(Commercialization of Plots)*

Conversion of residential plot into commercial shall be allowed only according to a uniform commercialization policy formulated and revised from time to time by the *MP&ED* with approval of government and notified in *Sindh Government Gazette* on the basis of comprehensive study of various urban areas under pressure for commercialization. Individual plots outside the policy will not be considered for commercialization

The policy to implementation cycle

The brief analysis provided of the historical context to the growth of the city, the underlying triggers, and response mechanisms employed quite clearly indicates that the issue of commercialization cannot be delinked with the overall development patterns witnessed in the city over the years and can only be studied and assessed within the larger picture for such a study to have any relevance and coherence. Some important contributing factors to the crisis that are cross cutting in nature, having political, financial and administrative implications are highlighted as follows:

Growing demand for commercial land parcels: From a deeper analysis of the pattern and nature of commercialization it is quite evident that it predominantly falls within the categories of the services sector

i.e. banks and financial institutions, food outlets, shopping centers/consumer goods outlets etc. In Karachi, the services sector has witnessed phenomenal growth and spending on consumer goods has escalated. This clearly indicates the need for providing land for housing these growing sectors. Coupled with this increasing footprint of the services sector and boom in consumerism has been the phenomenal increases in foreign remittance rates in the post 9/11 period. As had happened in the 70's and has been discussed earlier, it is assumed with some degree of certainty that most of this money has been invested in the real estate – mainly owing to the lack of any alternative and viable investment options.

Weak city governments: The institution most likely to guarantee protection of a city's interests is a strong city government. It is difficult to have a truly empowered city government in Karachi or for that matter anywhere in Pakistan owing to the lack of recognition for this important tier of governance in the Constitution of Pakistan. Even the much trumpeted *Devolution Plan* and the subsequently enacted Local Government Ordinance failed to ensure constitutional recognition to the local government tier of governance that continues to function as an appendage of provincial governments. Many of the local government functions are performed on the behest of the provinces. There is little autonomy in what the local governments can do and their existence is dependent upon their relationship with the provincial governments. A number of functions that ought to be performed by the municipal governments are actually taken care of by various departments of the provincial government. *The Karachi Strategic Development Plan 2020* showed optimism when it stated that *recent regulatory and institutional changes as a result of enforcement of the SLGO 2001, have raised prospects of centralizing planning and development control that takes care of the entire city district……..the functions of the KDA, the KBCA and the KW&SB have also come under the management of CDGK.* However the subsequent tussle between the CDGK and the GoS over control of the KBCA and the KW&SB clearly emphasized that the problem very much exists. If viewed in relation to the commercialization of land and conversion of land use, the historical process of commercialization in Karachi, discussed earlier clearly highlights this point.

Planning and development inadequacies: It critical to realize that away from the inner city, the lack of adequate public transport systems, non-availability of civic utilities such as water supply, power and security concerns are some more visible manifestations of Karachi's planning and development crisis that have restricted the possibility of organized commercial growth away from the city centre. In addition, the type of commercialization that has taken place does not relate with the settlement patterns found in the peripheral city areas.

The mal-administration and corruption aspects: It is no hidden fact that commercialization or conversion of land use offers attractive financial incentives for the concerned civic agencies. This critically important factor compounded by the non-functioning of any umbrella master planning control has meant that discretionary powers have been put to full use to by-pass whatever little regulatory controls that have existed to promote conversion of land in use to accommodate the growing demand for commercial uses of land instead of the developing of new commercial zones. This trend has continued irrespective of political or non-political controls over the levers of power and decision making.

Planning or development: what comes first!

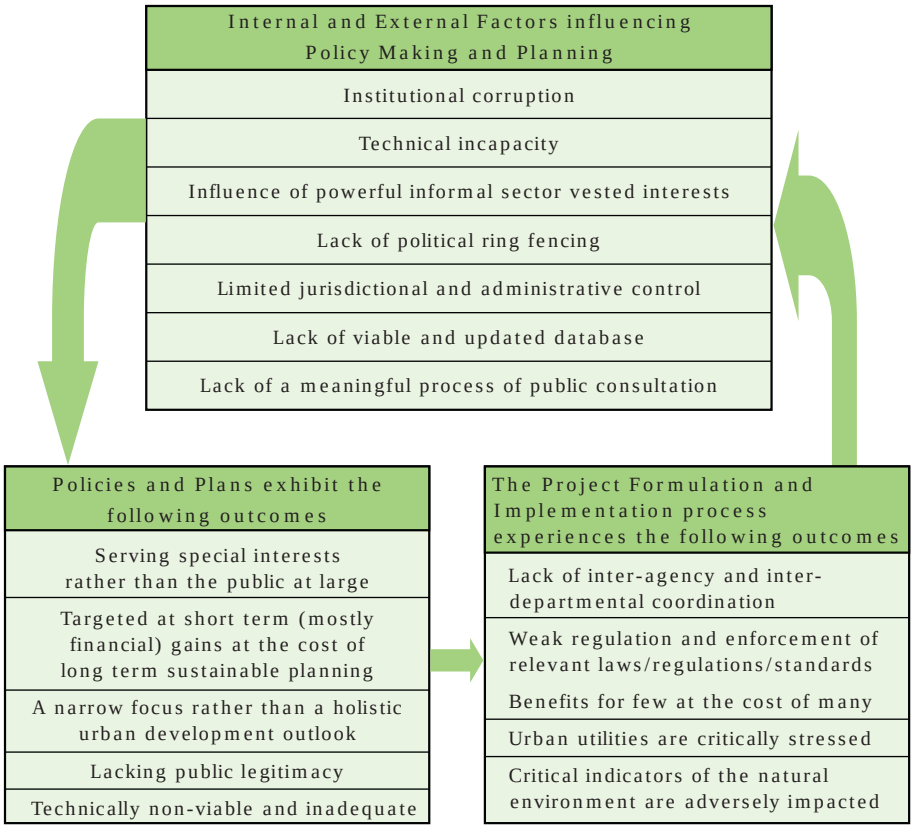
It would also be interesting at this stage to compare the relevant sections of the *1974-85 Karachi Development Plan* and the *2020 Karachi Strategic Development Plan*. It is fascinating to find how clearly the priorities have changed and how in the absence of strong policy and planning implementation mechanisms the physical development dynamics of the city rather than being channeled and driven by planning guidelines are instead now dictating the direction of the planning process itself.

Karachi Development Plan 1974-85

The *1974-85 Karachi Development Plan* is considered widely by a majority of planning and development experts as probably the most well researched and viable planning document ever prepared for Karachi. It both correctly assessed the development dynamics that existed at that time and fairly accurately predicted a variety of possible future development scenarios. How the *Plan* addressed the issue of commercial growth and its relation with the overall urban development dynamics makes for interesting reading.

At the time the *1974-85 Karachi Development Plan* was prepared, there existed in Karachi a four level hierarchy of commercial centers: metropolitan centers, sub-metropolitan centers, township centers and local centers that were located and functioned based on the shopping and travel patterns of the various income groups inhabiting the city. It was proposed in the plan to continue with four level hierarchy of commercial centers as it was considered to remain viable till the year 1985.

Fig 2a - The Crisis Unfolds – the Policy to Implementation Cycle in Urban Planning



A warning not heeded

One of the overriding concerns expressed in the 1974-85 Plan was to decrease pressure on the metropolitan center and prevent its further densification. It proposed to *strengthen the hierarchy of commercial centers and widely distributed local centers in order to reduce growth pressure on the metropolitan center.* The use of the term *widely distributed* clearly indicated a pattern of commercial development different than the interlinking ribbon commercial development that has now taken place. The *Plan* both anticipated the possibility of ribbon commercial development in case its recommendations were not paid heed to and also warned against possible negative and adverse impacts in the absence of the appropriate planning and environmental controls. In this regard the following recommendations find relevance:

> *The possibility of development of a future second metropolitan center at the intersection of Rashid Minhas Road and University Road should be evaluated immediately. If a decision is made to proceed with its promotion, action can be taken quickly enough to prevent excessive congestion in the existing downtown area. If such action is not taken, the existing center is likely to be intensified, and as congestion increases it will spread gradually along M.A. Jinnah Road in the direction of the new centers. Such natural extension is likely to be far too slow to avoid the kinds of breakdown that have been experienced in metropolitan centers elsewhere*

> *Sufficient land should be developed in each center to provide a core area that could be expanded to accommodate future growth, but it would be most efficient in most cases to develop considerably less area than will ultimately be needed in each center. Commercial development can spill over into adjoining residential areas with few negative effects* ■

The *Plan* anticipated commercial growth and the need for space to accommodate the growth. It proposed the concept of *Dispersed Development* with a view to linking places of work and residential development as closely as possible. It proposed that *future residential development should be coordinated with likely industrial and commercial growth centers*. It further stated:

A strong effort should be made to develop areas containing a mixture of household income groups. Middle and upper income households spend much more than lower income households, and therefore generate more employment. Middle income groups are most likely to provide investment capital for small scale manufacturing. This is necessary if employment levels in the residentiary areas are to be high

The *Plan* even offered some damage control measures in case commercial development does not follow the recommended planning guidelines:

The location of most commercial development should be relatively predictable, and it is expected that land development for commercial centers will in the future be in economically viable locations. If however, commercial activities locate in unexpected but economically viable places, they should be provided with infrastructure and facilities and plots should be authorized to ensure shop owners of a viable location free uncertainty and possible harassment

The principle concerns and priorities underlying the planning recommendations were clearly how commercial growth can be effectively accommodated within the emerging development pattern of the city in a way that it best serves to improve the quality of life of the citizens and contribute to the overall sustained economic growth of the city rather than just serving to fill the coffers of the city administration and the selected few. We clearly were in a time when land was still considered as a means of delivering social good rather being treated as a financial commodity.

Karachi Strategic Development Plan 2020

While the 1*974-85 Karachi Development Plan* showed clarity of vision in terms of the guiding objectives and recommended actions, the *2020 Karachi Strategic Development Plan* offers a clear disconnect. The relevant *Guiding Principle – Sustainable growth, economically feasible, environmentally viable, socially and culturally acceptable* – seems to set an appropriate stage the supporting planning recommendations do not quite match up. The most critical relevant section in the *Plan* is where it acknowledges the phenomenon and process of ribbon commercial

development and identifies some of the adverse impacts as *constraints* to the process rather than *outcomes* of the process. It also proposes acceleration of the process:

With mounting pressures exerted by the population growth over the last two decades, two basic trends in land use are observed. Recently, commercial growth has taken place among major arterials. While most residential neighborhoods have acquired one or two story structures, significant densification has taken place through construction of upper floors and sub-divisions of large plots. In many old and new areas, apartment buildings, 5-6 stories high, have replaced the low density bungalow type housing. A severe constraint for this development has been the outdated and decadent infrastructure, particularly deficient water supply and sewerage networks. In such areas i.e. Lyari, Saddar, Jamshed, Gulshan-e-Iqbal, Gulberg and North Nazimabad, extensive replacement of the old lines and redesigning of the distribution system will be undertaken for essential improvements. Apart from vigorous commercialization along the arterial roads, high rise apartment buildings would help improve housing shortages and improve living conditions

While endorsing what it terms as *vigorous commercialization along arterial roads* it also comes up with the following recommendation:

As a result of phenomenal growth and expansion of the economy, the financial district of Karachi is growing and has considerable potential for expansion. It is proposed that a number of sub-centers to cater for the needs of the financial center should be developed, for which sites on Mai Kolachi Road at Sindh Government land, in the Korangi Industrial area, at Govt. of Sindh land, Faisal Cantt. Area and Rashid Minhas Road, Shaheed-e-Millat Road and at Hawksbay Road (K-28) are proposed

Then it also has the following recommendation to offer:

Amenities and shops need to be accessible to citizens rather than clustered into far flung specialist districts and to this end clusters of commercial activity are suggested at the intersections of major radials with the inner ring

While proposing the spread of commercial activities *along a linear pattern, in specific sub-centers* and along the *intersections of major radials with inner rings,* the *Plan* goes a step forward in recommending the following:

As the city continues to expand, the future economic growth is expected to have an impact on the morphology and physical pattern of the megacity. The future appears to hold a promise for transformation of the existing linear/radial pattern to a form of either a polycentric or a network city.

New economic centers with specialized functions may emerge around the present metropolitan areas with or without planning. In order that the new business centers emerge and grow in a planned manner with good connectivity to different city sections, it is appropriate to plan the establishment of a few new centers at the periphery of the city so that these are allowed to play their potential role in the city's economic development and well being – Promoting development towards Town Centers, increasing the access to employment by disbursing economic activity to the New Economic Centers (NEC)

The recommended *Spatial Growth Strategy* of the *2020 Karachi Strategic Development Plan* seems to reinforce the growing perception among a number of noted planning and development experts that the *Karachi Strategic Development Plan* may better be termed as the *Karachi Real Estate Development Plan*. The *Strategy* goes as follows:

Densification: through floor addition, high rise development in designated areas, walkup apartments and sub-division of large plots, densification will result in considerable increase in space for housing, and business, offices and other uses.

Densification and Infill: A combination of densification and infill processes (occupation of vacant land for various land uses) will intensify to accommodate future growth. Changes will take place more through densification than infill.

In addition, the *Plan* calls for extensive vertical development and densification

Section 3

The citizens speak

commercialization of traffic corridors in Karachi

As part of the on ground research work carried out in the course of preparing this *Study*, a *Public Opinion Survey* was carried out of a few selected commercialized roads. this initiative was targeted to gauge public opinion on how the commercialization policy, its implementation and the resultant change in the land use dynamics of the affected localities has impacted the quality of life of the residents in terms of the social and environmental repercussions of land use change. The following analysis of the *Survey* discusses the key findings. The survey was structured in a manner so that it serves as not just one more opinion poll – rather it aims to reflect the actual experiences of the people with a wide range of impacts. The *Survey* covers issues such as citizen awareness on the subject matter, their views on the policy and their interaction with the relevant government authorities and seeks to identify issues that emerge with the same.

The *Survey* aims to serve as a simple and credible tool to provide systematic citizen feedback to public agencies about various qualitative aspects of their performance by indicating their level of satisfaction or dissatisfaction. The data and its analysis it is hoped can be used by the relevant agencies for prioritization of reforms and corrective actions by drawing attention to the worst problems highlighted.

Survey Objectives & Methodology

Research Objectives

The main objective of the survey was to collect views on the commercialization of some selected major traffic corridors in the city in terms of the resulting impact on the quality of lives of the residents

Research Design

To achieve the desired objectives, Shehri-CBE conducted a quantitative survey through face-to-face interviews via a structured questionnaire. The questionnaire was developed in English and translated in Urdu to be administered in the field.

Target Respondents

The target respondents for the survey were adult:

- Males of age 18 years and above
- Females of age 18 years and above

Key Stages in the Survey

- *Determine the scope and plan of the procedures*

  The first step is to identify the key issues/sectors to be included in the survey in terms of structuring a holistic framework for information gathering and analysis

- *Design the questionnaire*

  Focus group discussions involving both government agencies and users are necessary to provide input for the design of the questionnaire. Such interactions provide the necessary feedback required to prioritize and focus on key issues of concern

- *Sampling*

  To collect feedback from the entire affected areas would have required time and resources not available with the executing agency. Sampling, when carried out accurately, gathers feedback from a sample group that is representative of the larger population. The appropriate type of sampling design must be determined

- *Execution of the Survey*

  First, select and train a cadre of survey personnel. Second, after a certain proportion of interviews are complete, perform random spot monitoring of question sessions and ensure that the recording of household information is accurate. Third, after the completion of each interview, go over the information collected to identify any inconsistencies

- *Analyze the data*

  Typically, respondents give information on aspects of government policies and actions on a relative scale or on a numeric scale (say 1 to 10). These ratings are then aggregated and averaged and percentage measures are produced. Comparative analysis is also carried out to bring out variations and determine and assess possible causes. Co-relations are also created between various data sets for assisting in the proper evaluation of certain key findings ■

Table 3a - The Survey Area

Location of Road	Sample Size
Allama Iqbal Road (from Tariq Road to Khalid Bin Walid Road Intersection)	10
Sir Syed Road (From Rabi Center, Tariq Road to Khalid Bin Walid Road Intersection)	10
Khalid Bin Walid Road (From Noorani Kabab House, Shahra-e-Qauideen to G-Church)	20
Sher Shah Suri Road, North Nazimabad (From Board Office Intersection to Sakhi Hasan Intersection)	50
Rashid Minhas Road (From Millennium Mall to Shafiq Mor)	40
Total Sample Size	130

Sample Size Selected, Geographical Coverage & Sample split

The survey was conscientiously designed to ensure a representative geographical spread to capture the diversity in the city. A total of five (5) roads in 3 Towns of Karachi were covered in this sample. These roads and areas were selected based on the list of roads gazetted as commercial in the Sindh Government Gazette Notification, dated Thursday, February 12, 2004.

Training Dynamics

Recruitment of surveyors

A total of 4 interviewers were hired who were proficient in the language in which the interviews were conducted. Minimum education of the surveyors was till Intermediate and all of them had conducted surveys on a regular basis for renowned market research agencies because of which they were quite familiar with the door to door survey methodology.

Briefing sessions

In a two day briefing session, the surveyors were told about the objectives of the study and trained in the administration of the questionnaire. Minor changes, related to the instructions and flow of the questions were incorporated and each surveyor was given the final copy to get attuned to the questionnaire.

Mock calls and Pilot

After the briefing session, all the field workers did mock calls under the direct supervision of the *Survey In-charge* and *Programme Head*. Each conducted one pilot which was checked by the Survey In-charge to ensure that all instructions were meticulously followed. Potential problems arising in the field and how to address them were also discussed, which is a standard procedure for any survey.

Field Methodology

Selection of households: The surveyors started the interview from the first house on the road. To make the survey representative, instruction was given to skip three households after a successful interview. In case of small stretches of roads like Sir Syed Road, surveyors were told to continue interviews in the adjacent or parallel lanes.

Selection of respondents: The criteria for the selection of the respondent was not very stringent or single respondent oriented as the purpose of the survey was to extract correct information. Once the household was selected, the surveyors were trained to interview the permanent resident, either male or female above 18, who claimed to have knowledge about the area. If the respondent was unable to answer questions, the surveyor would request the respondent to ask a more knowledgeable person in the house to give answers.

Independent Back Checking

Quality of the survey was ensured through independent back checking of 10% work of each surveyor through verification over the phone. The back checker would call the interviewed respondent and ask some of the same questions as in the survey form and then match the answers in the filled in forms.

Data Coding

100% editing was done by Survey In-charge of all the forms for any kind of mistake made by surveyors. The edited questionnaires received from the field were checked and responses of the open-ended questions were coded. A coding scheme was prepared on the basis of returned questionnaires.

Problematic or incomplete questionnaires were discarded. The cleaned data was punched in Microsoft Excel for tabulation and data analysis.

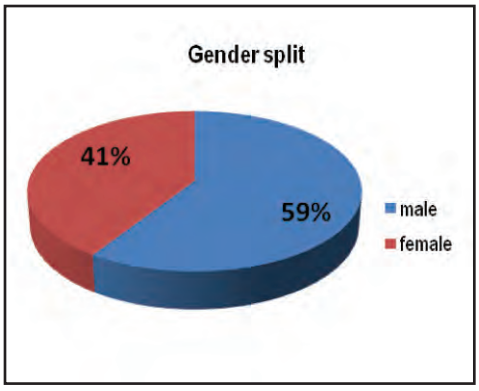
Data Analysis

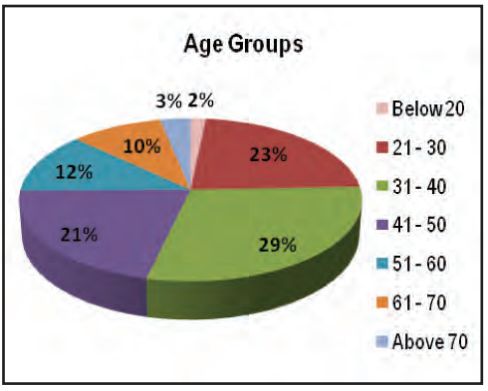
Data analysis and presentation have been carried out and findings discussed along the following themes:

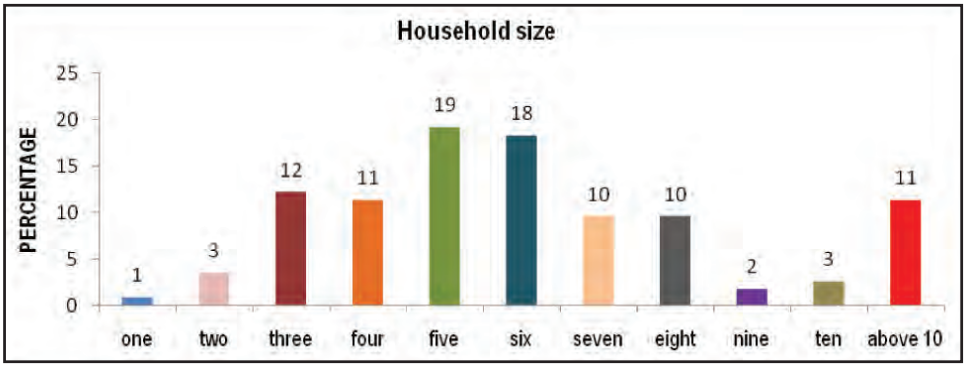
- Social and environmental impacts
- Impact on civic utilities
- The main culprits
- Interaction with government
- Views on commercialization

Demographics

The gender split amongst the respondents was fairly even (male – 59%, female 41%). The predominant age group ranged between 31-40 (29%) and 41-50 (21%). The average family size was between 5 (19%) and 6 (18%). However, a fairly high percentage for household size of above 10 (11%) was obtained.



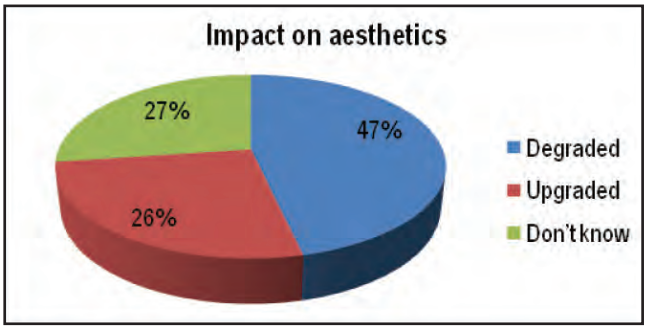




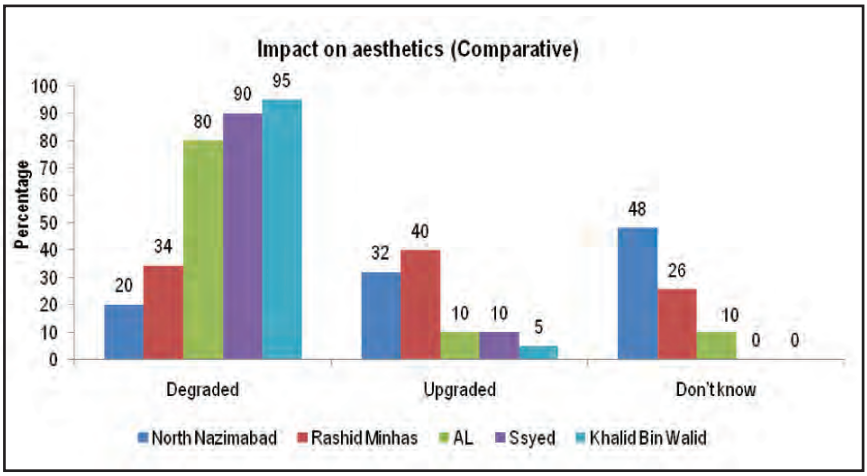
The Findings

Social and Environmental Impacts

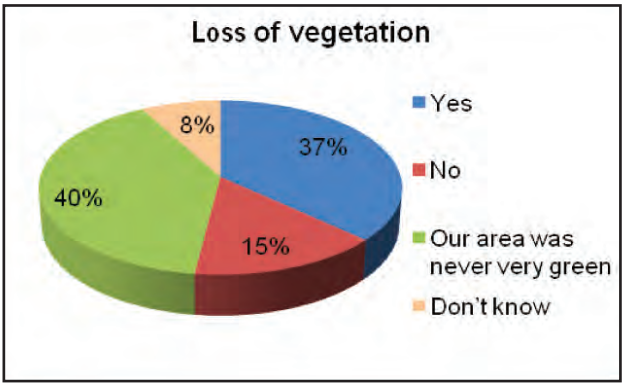
. Impact on the aesthetics



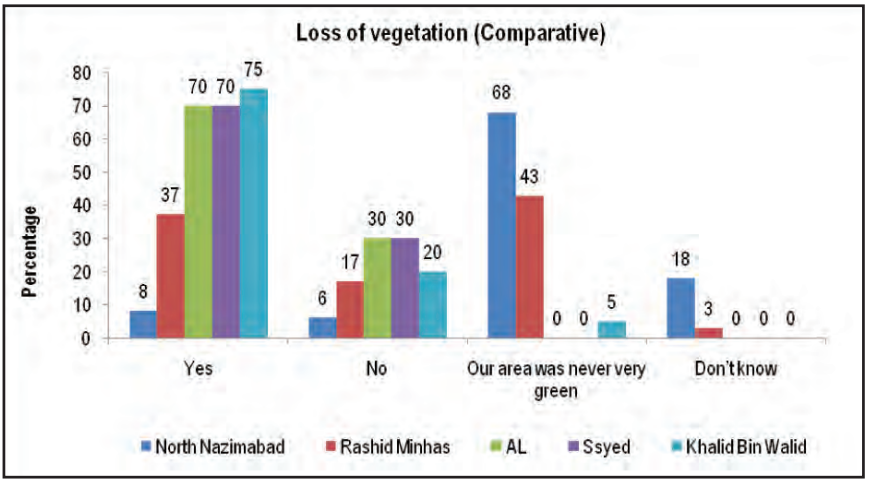
The majority, 47% of the respondents were of the opinion that the aesthetics of the area have been degraded as a result of the commercialization of roads. The respondents residing along the three roads in P.E.C.H.S (Jamshed Town) - Allama Iqbal Road, Sir Syed Road and Khalid Bin Walid Road - expressed the highest level of total dissatisfaction (80%, 90% & 95% respectively). An interesting statistics in this question relates with the option of don't know. The figure of 27% that signifies respondents that have no view on the subject is interesting in that this figure is high in the case of Sher Shah Suri Road, North Nazimabad and Rahid Minhas Road (48% and 26% respectively) and fairly low in the case of Allama Iqbal Road, Sir Syed Road and Khalid Bin Walid Road (10%, 0% and 0% respectively).



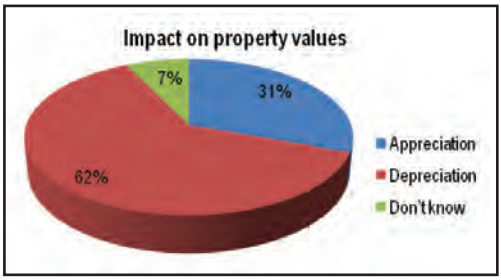
· Loss of vegetation



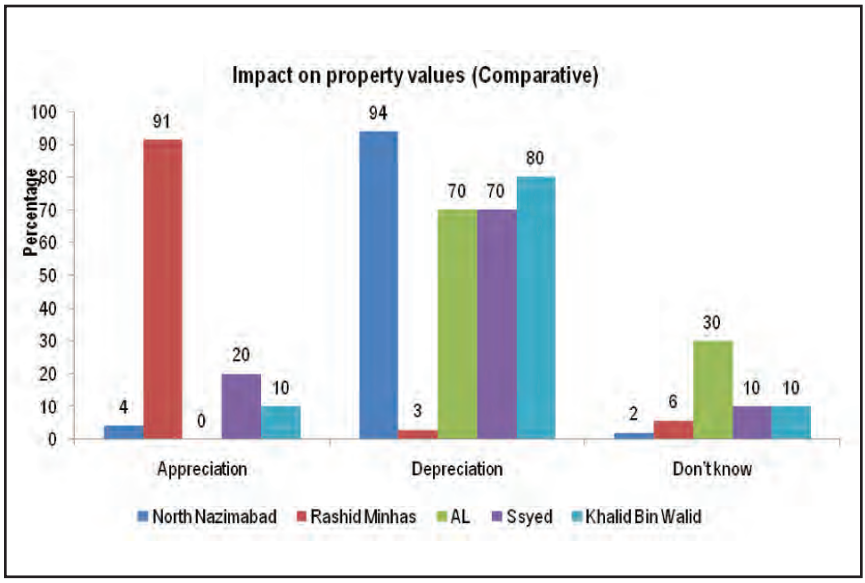
When asked about the loss of vegetation in the area, 37% of the respondents felt that there has been loss of vegetation while interestingly, 40% were of the view that the area was never very green and as such the question of loss of vegetation does not really arise. This data is quite revealing and probably an eye-opener for the city planners and managers that even in relatively well developed and planned neighborhoods of the city, green spaces is a rarity. While again the respondents residing along the three roads in P.E.C.H.S (Jamshed Town) - Allama Iqbal Road, Sir Syed Road and Khalid Bin Walid Road - expressed the highest level of concern regarding vegetation loss (70%, 70% & 75% respectively), a high percentage of respondents residing along the Sher Shah Suri Road, North Nazimabad and Rashid Minhas Road (68% and 43% respectively) declared that their area was never very green anyway.



· Impact on property values

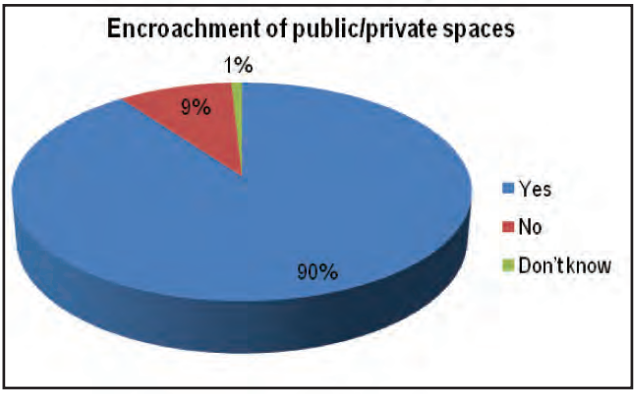


It is interesting to note that in answer to the question whether since the onset of commercialization, property values have increased or decreased in their area, 62% respondents reported a decrease in the property values. The only exception among the five roads surveyed where in the opinion of the respondents the property values have raised as a result of commercialization was Rashid Minhas Road, where 91% of the respondents noted an increase in property values. Other than that, along all the remaining four roads, namely Sher Shah Suri Road, North Nazimabad, Allama Iqbal Road, Sir Syed Road and Khalid Bin Walid Road a drop in property values was reported (94%, 70%, 70% and 80% respectively). This finding defies the generally held belief that commercialization of the area impacts favorably on the value of the land parcel that is being commercialized.

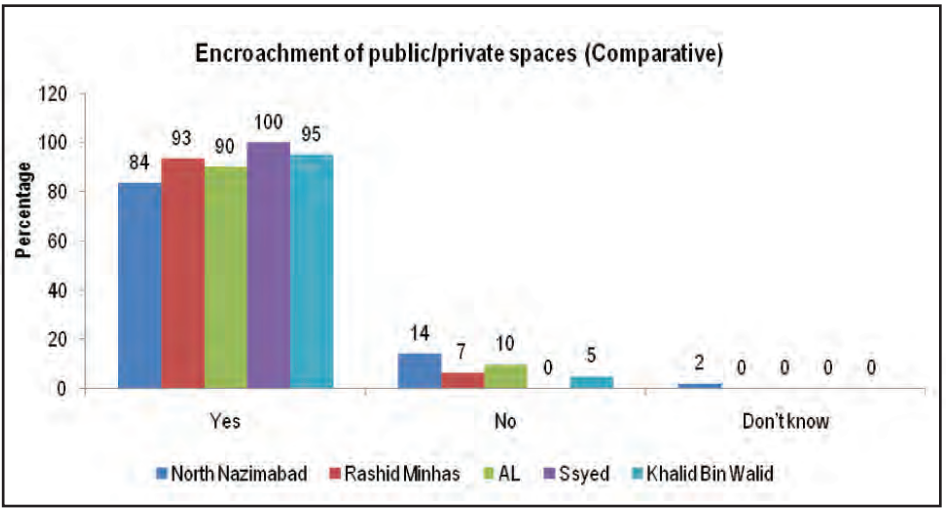


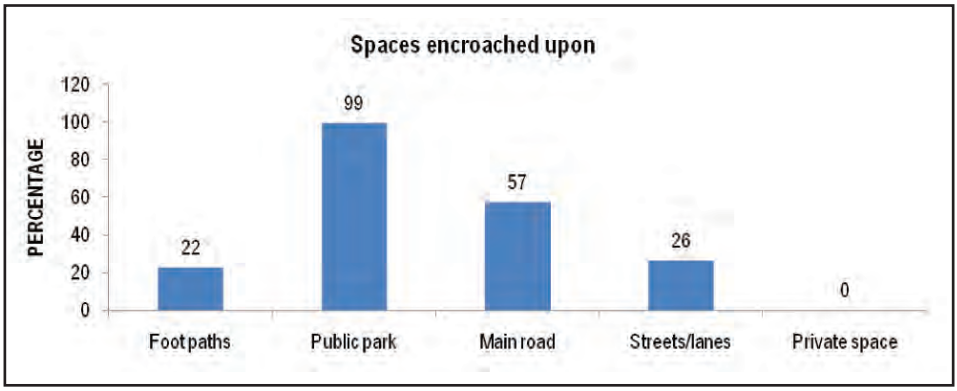
· Encroachment of public spaces

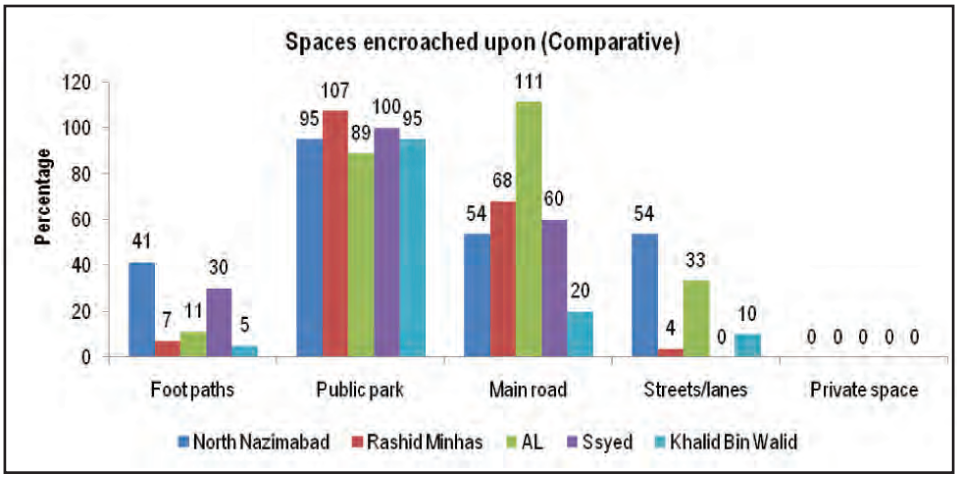
An overwhelming number
commercialization of roads
in their localities. The perc
respondents residing alo
encroachments in their lo
further prioritize which ty
the majority respondents
affected category among
commercialization. The m
encroached upon public sp
much across the board witl
where main roads were id
with public parks being in
space. This finding implies



of law and the fundamental rights of the citizens as public parks get encroached, (b) lack of parking spaces and lack of regulation as the activities of shops and offices spill over into pavements and roads as the main roads get encroached and (c) indication of the corruption and financial incentives that sustain and promote the formulation of such policies and actions.

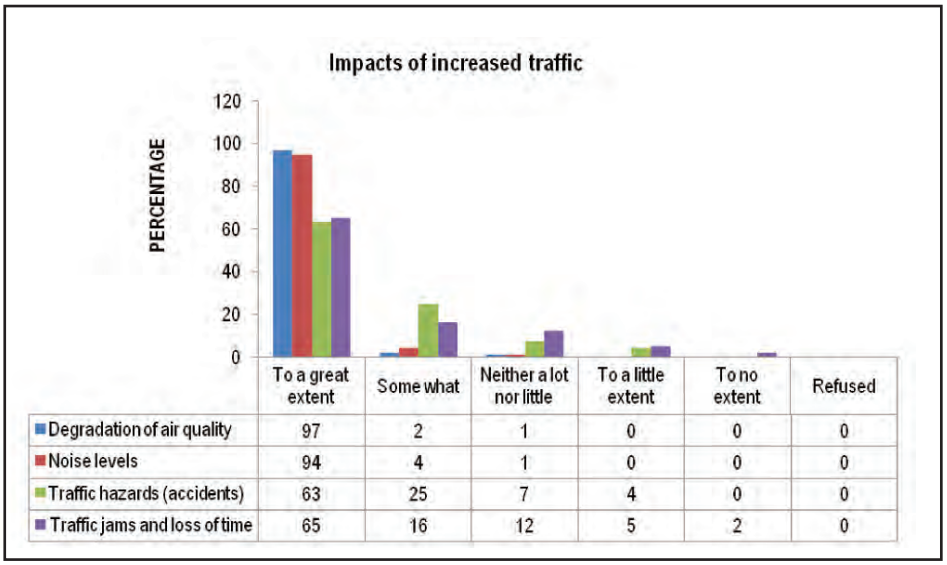






· Adverse impacts due to Increase in traffic volumes

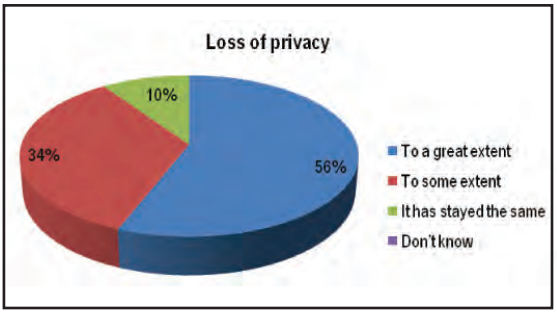
A large number of respondents (83%) were of the view that the traffic volumes have increased to a great extent as a result of commercial activities in their areas. The figures were fairly consistent for all roads with the highest percentage obtained along Khaild Bin Walid Road (90%). When the respondents were further asked to prioritize as to which have been the worst adverse impacts due to traffic increase in their localities, highest negative percentages were obtained (adverse impacts to a great extent) against all given options with degradation in air quality scoring the highest percentage (97%) followed closely by increase in noise pollution levels (94%).

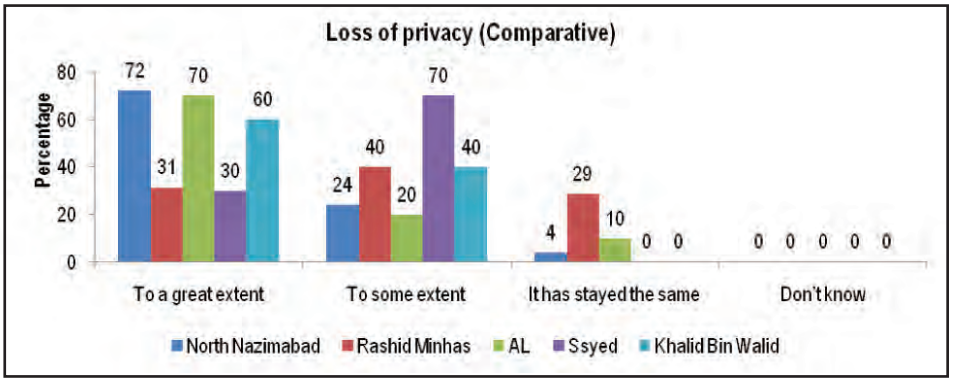


	To a great extent	Some what	Neither a lot nor little	To a little extent	To no extent	Refused
Degradation of air quality	97	2	1	0	0	0
Noise levels	94	4	1	0	0	0
Traffic hazards (accidents)	63	25	7	4	0	0
Traffic jams and loss of time	65	16	12	5	2	0

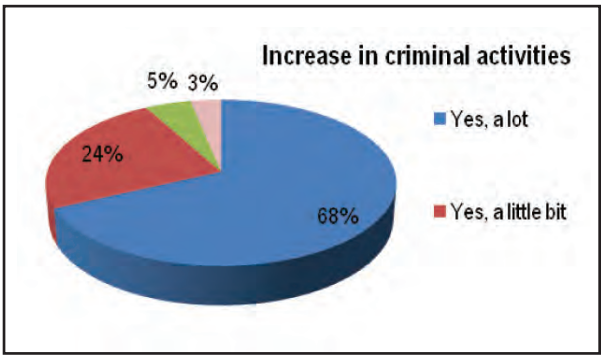
· Loss of privacy

Majority respondents (56%) were of the view that there has been some loss of privacy as a result of activities associated with commercialization. The figures were less for Rashid Minhas Road and Sir Syed Road (31% and 30% respectively) while they were the highest for Sher Shah Suri Road, North Nazimabad (72%).

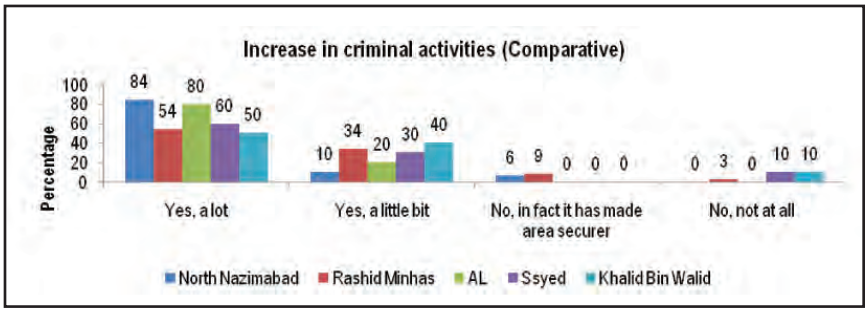


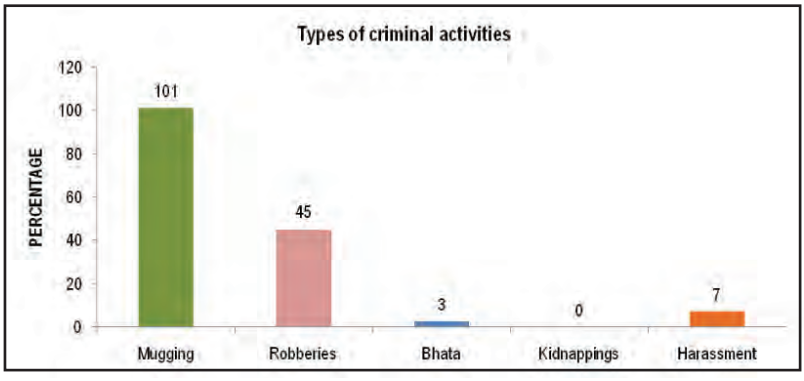


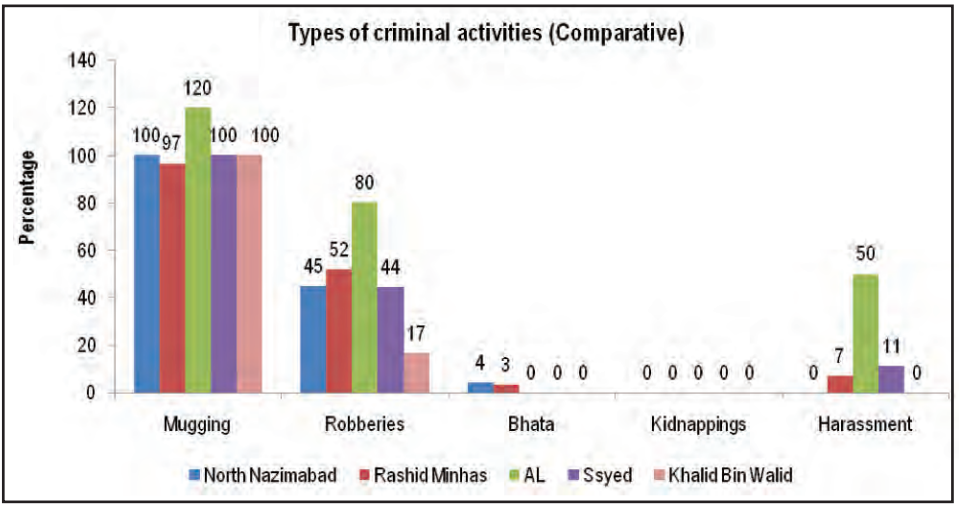
· Increase in criminal activities



The highest percentage of respondents (68%) felt that criminal activities have increased a lot as a result of commercialization related activities. For all the roads, the majority respondents indicated that criminal activities had increased with the highest percentages obtained in North Nazimabad (84%). When the respondents were asked to further prioritize as to what type of criminal activities were prevalent in their areas the highest percentage by a wide margin (101%) was obtained against the option of mugging. This view was fairly consistent across the board with percentages of 100%, 97%, 120%, 100% and 100% coming out for Sher Shah Suri Road, North Nazimabad, Rashid Minhas Road, Allama Iqbal Road, Sir Syed Road and Khalid Bin Walid Road respectively.

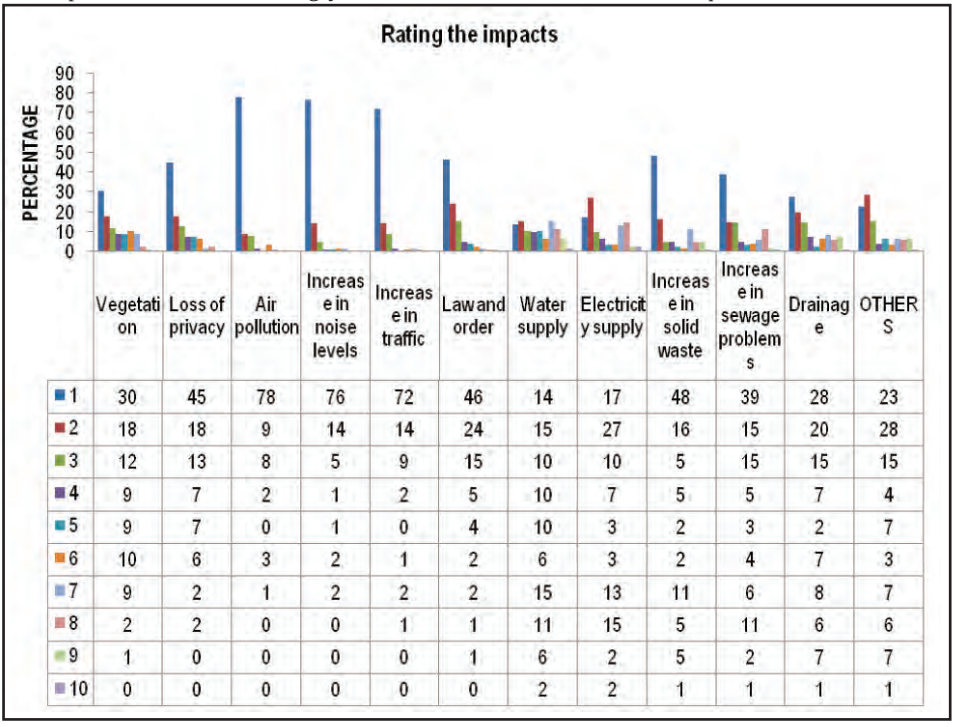






· Rating the adverse impacts

In a critically important question, the respondents were asked to rate on a scale of 1-10, the various possible consequences of commercialization of roads in terms of their severity of impact on the quality of lives of the respondents. Interestingly, it was found that three consequences, related

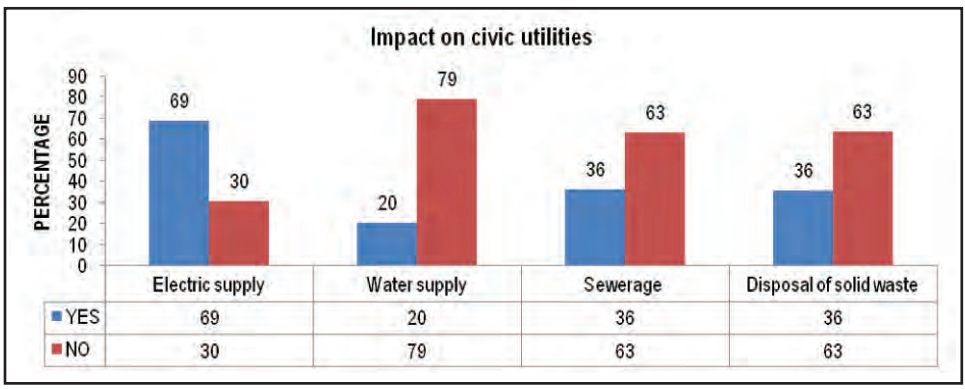


	Vegetation	Loss of privacy	Air pollution	Increase in noise levels	Increase in traffic	Law and order	Water supply	Electricity supply	Increase in solid waste	Increase in sewage problems	Drainage	OTHERS
1	30	45	78	76	72	46	14	17	48	39	28	23
2	18	18	9	14	14	24	15	27	16	15	20	28
3	12	13	8	5	9	15	10	10	5	15	15	15
4	9	7	2	1	2	5	10	7	5	5	7	4
5	9	7	0	1	0	4	10	3	2	3	2	7
6	10	6	3	2	1	2	6	3	2	4	7	3
7	9	2	1	2	2	2	15	13	11	6	8	7
8	2	2	0	0	1	1	11	15	5	11	6	6
9	1	0	0	0	0	1	6	2	5	2	7	7
10	0	0	0	0	0	0	2	2	1	1	1	1

directly with increase in the traffic volumes in the survey areas scored the highest namely, degradation of air quality (78%), increase in noise levels (76%) and increase in traffic volumes (72%). However, these figures can also in addition to increased traffic be related with other businesses and activities where noise is created and smoke emitted such as restaurants, maintenance workshops of different kinds etc. Issues related with improper disposal of solid waste (48%) and law and order concerns (46%) also scored highly. Interestingly enough, concerns about the water supply situation were minimal and scored most favorably as compared to the other issues identified in the rating list (only 14% respondents attributing maximum severity of impact).

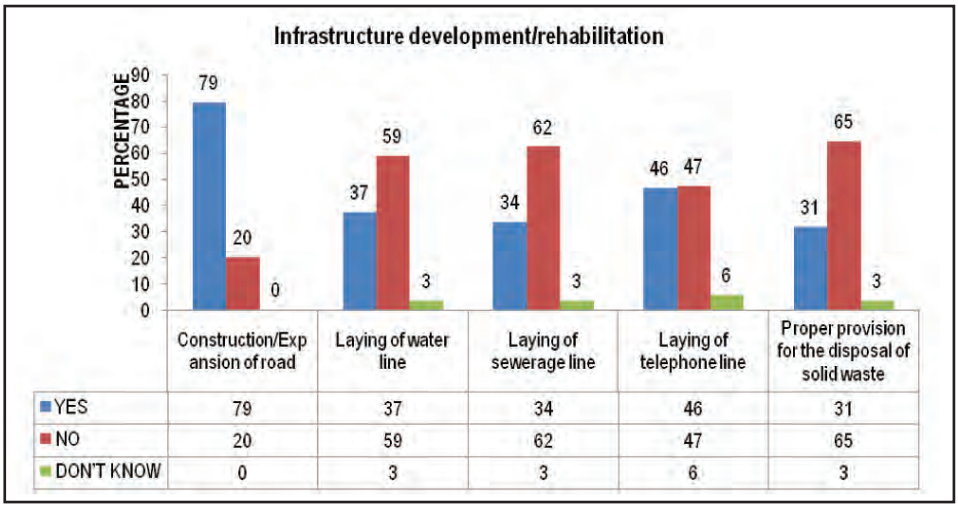
. Impact on Civic Utilities

Of the given options, the utility worst affected by the onset of commercial activities was identified by the respondents as power/electrical supply (69%) while solid waste and sewerage scored an even 36%. Concerns about the water supply situation was felt the least (20%).



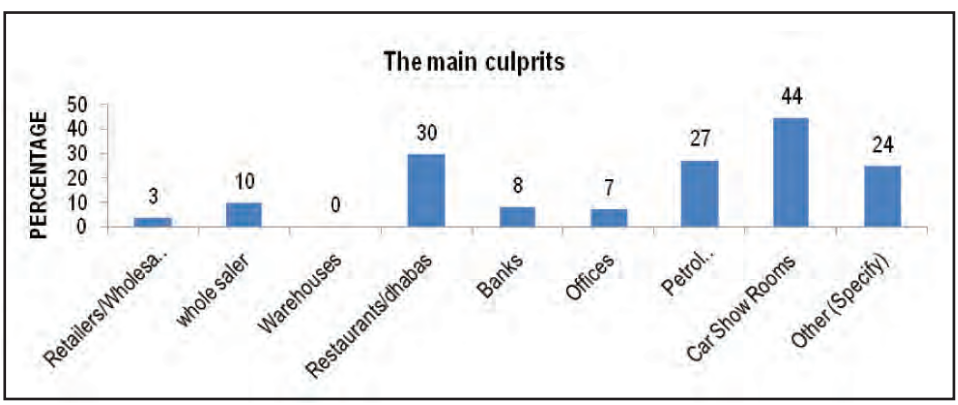
· Infrastructure rehabilitation to accommodate commercialization

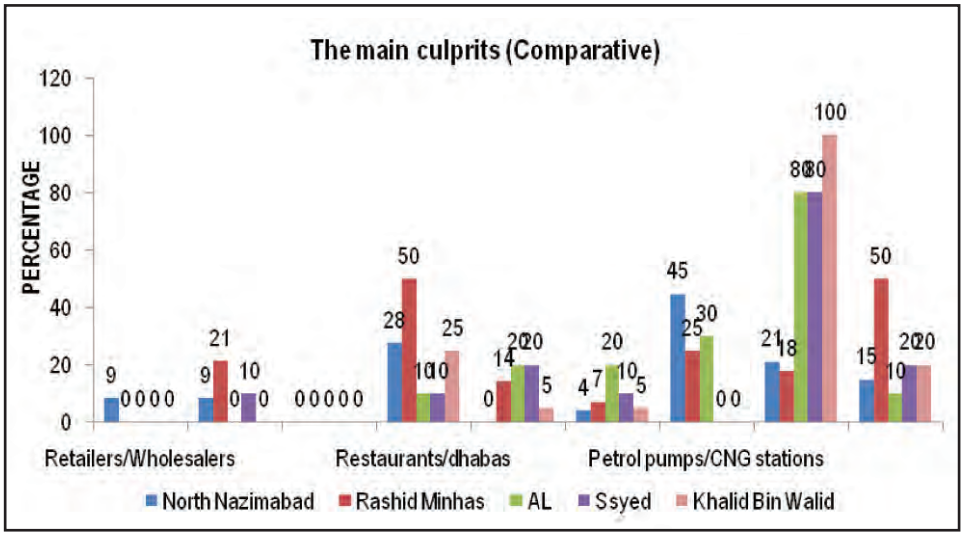
When asked as to which type of infrastructure projects in their opinion both preceded and were undertaken simultaneously with the commercialization of roads, the majority respondents (79%) indicated road construction as the activity most prioritized by the authorities while least attention was given to in their views to providing facilities and services for disposal of solid waste (31%).



. The Main Culprits

After rating of the impacts, the respondents were asked to select the commercial activity that in their views has had the most adverse impact on the social and environmental profile of their localities. It is instructive that yet again public opinion has targeted traffic/transport related activities as having the worst impact – car showrooms (44%) and petrol pumps/CNG Stations coming out as the worst culprits. Road side restaurants also scored high on negativity (30%). Comparative ratings show interesting variations. 100% of the respondents from Khalid Bin Walid Road identified car showrooms as the worst culprits while huge majority of the respondents both in Allama Iqbal Road and in Sir Syed Road, 80% respondents each also identify car showrooms as the commercial activity causing the most inconvenience. Road side restaurants were the main concern of the respondents from Rashid Minhas Road while petrol pumps/CNG Stations was the main worry of the majority in Sher Shah Suri Road, North Nazimabad (45%).

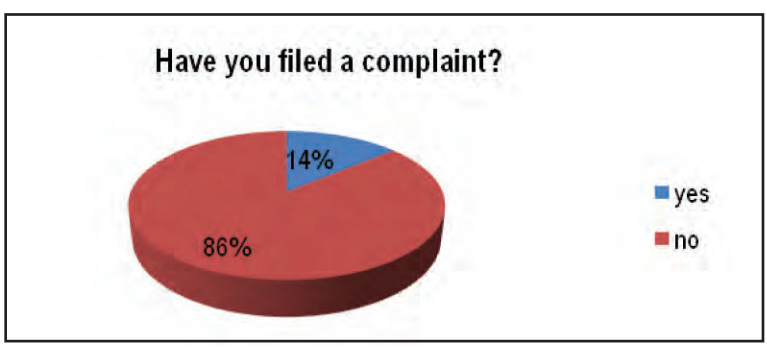




. Interactions with the Government

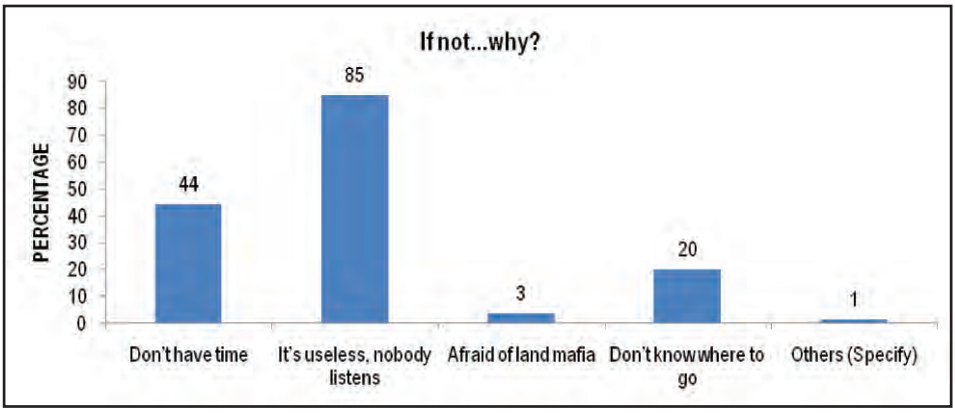
Have complaints been filed?

When the respondents were asked if they have ever contacted the relevant government authorities to register their complaints, 86% replied in the negative. There was a balance obtained in Sir Syed Road where 50% of the respondents reported that they had contacted the relevant authorities while the remaining 50% did not. In the case of Khalid Bin Walid Road, 35% responded positively to the question while in Sher Shah Suri Road, North Nazimabad, none of the respondent had ever filed a complaint.



If not...why?

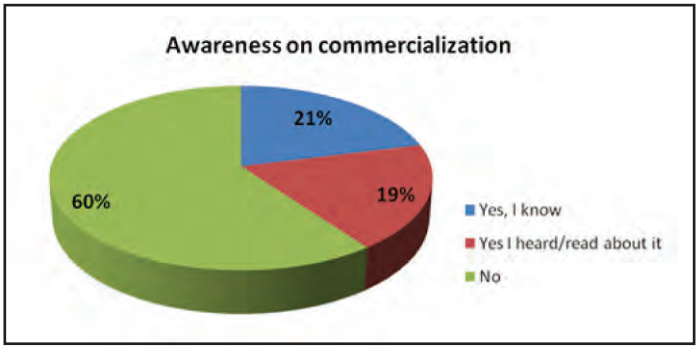
When the respondents that had not filed a complaint were asked to give reasons for their inaction in this regard, the majority (85%) replied that it's useless, nobody listens. This finding in no uncertain terms suggests that despite the fact that a number of issues of concern have been highlighted by the residents of the affected areas, their non-interest in approaching the relevant authorities represents an overwhelming vote of distrust and no-confidence on the government machinery.

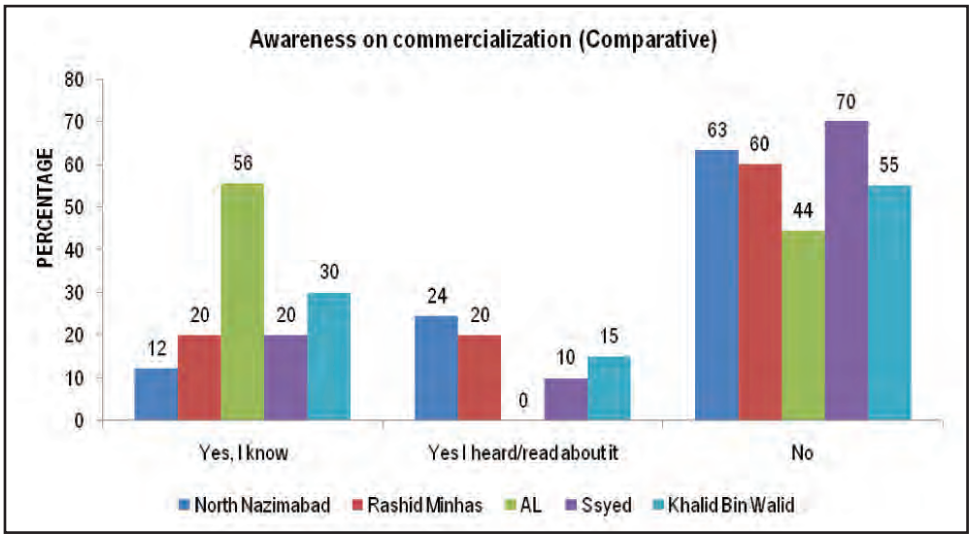


. Views on Commercialization

Are you aware?

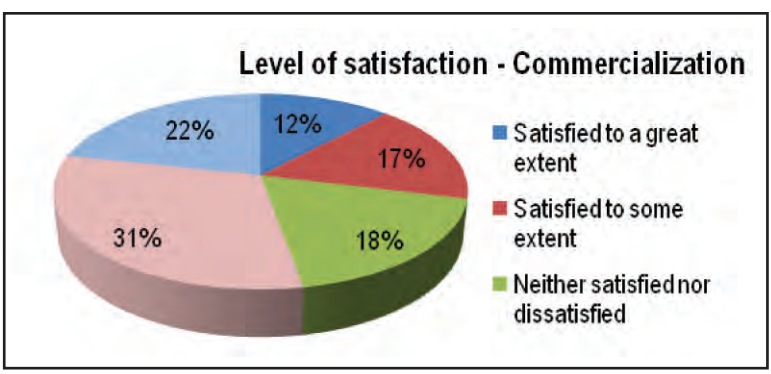
The respondents were questioned on whether they are aware that their area has been commercialized. 81% answered in the positive. When asked if they were consulted before the commercialization took place, 31% said they were consulted. The level of awareness was the highest on among the respondents residing on Allama Iqbal Road (56%) while it was least on Sir Syed Road (70%).

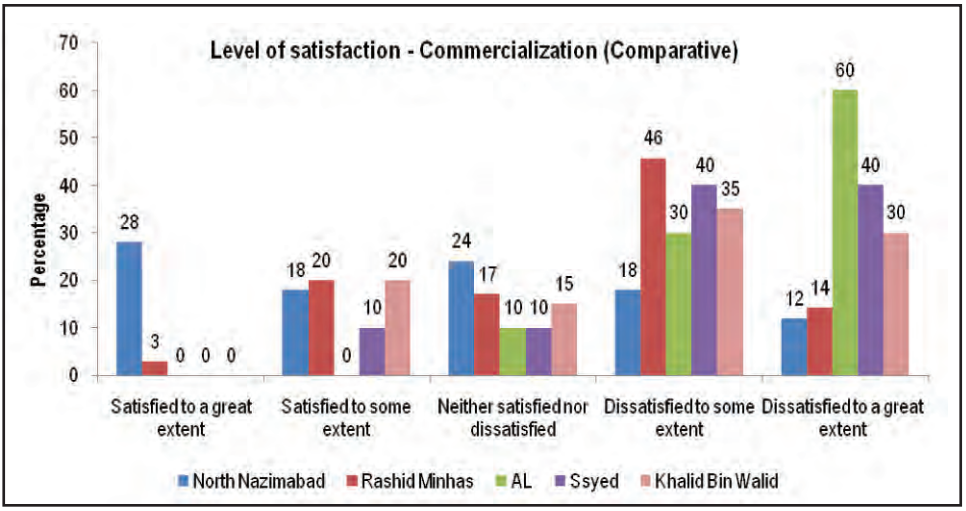




Satisfaction with commercialization

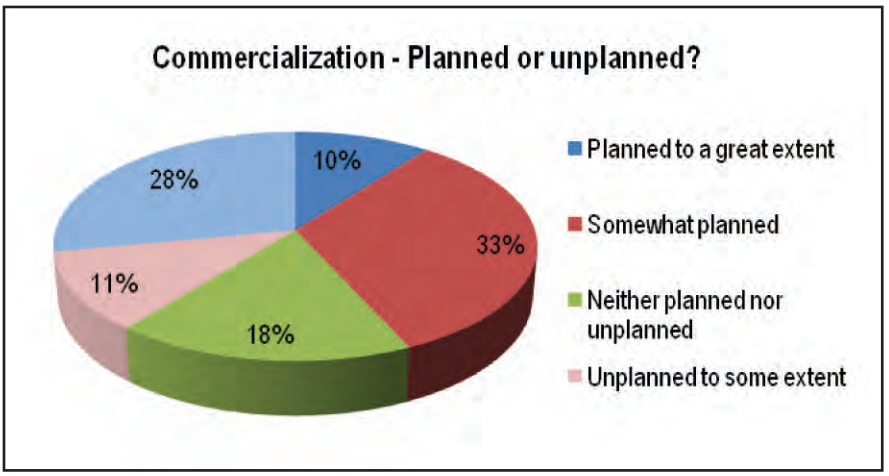
The questions related with the overall satisfaction with the commercialization having taken place in the survey area household's elicited mixed responses. While only 12% residents expressed satisfaction to a great extent with commercialization, the remaining respondents had mixed views – the greatest level of dissatisfaction was expressed by residents along the roads located in P.E.C.H.S (Jamshed Town) where 60%, 40% and 30% expressed the highest level of dissatisfaction in Allama Iqbal Road, Sir Syed Road and Khalid Bin Walid Road respectively. It is also interesting that not a single household residing on and in the vicinity of these roads that was interviewed expressed total satisfaction with the commercialization of the roads. On the contrary, the level of total dissatisfaction was far less in Sher Shah Suri Road, North Nazimabad and Rashid Minhas Road (12% and 14% respectively), with the highest level of satisfaction being recorded in Sher Shah Suri Road, North Nazimabad (28%).

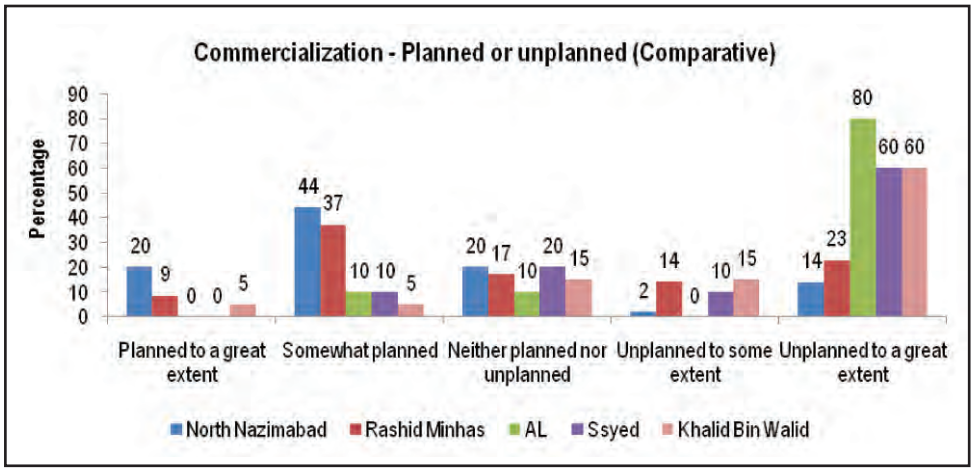




· Commercialization – Planned or unplanned?

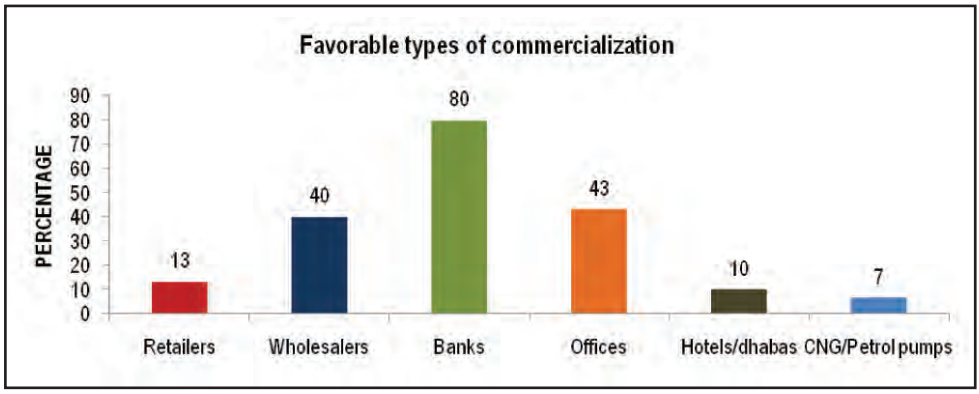
When the respondents were asked their views on whether the commercialization process was planned or unplanned, the highest percentages were obtained in favor of the options somewhat planned (33%) and unplanned to a great extent (28%), while 10% respondents were of the view that commercialization was planned to a great extent. Yet again, respondents along the three roads in P.E.C.H.S (Jamshed Town) - Allama Iqbal Road, Sir Syed Road and Khalid Bin Walid Road - expressed the highest level of total dissatisfaction (80%, 60%, 60% respectively) with the planning process that accompanied the commercialization of roads. Respondents that expressed a high level of satisfaction with the planning process were based in Sher Shah Suri Road, North Nazimabad, though the percentage (20%) cannot be considered substantial.

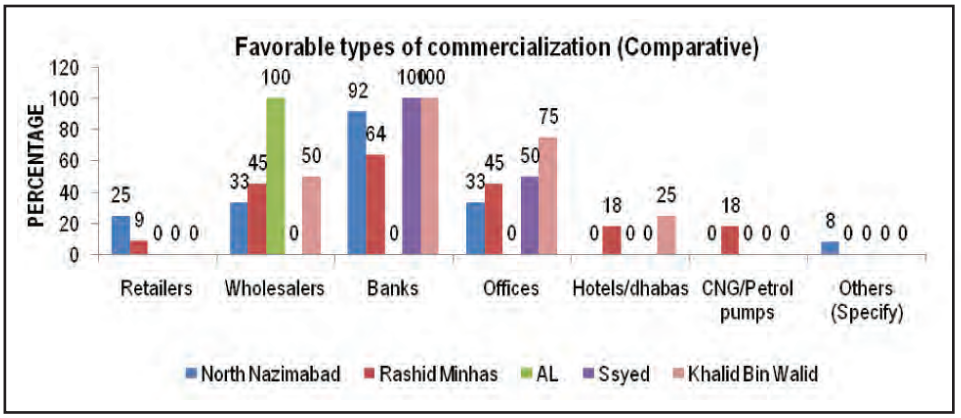


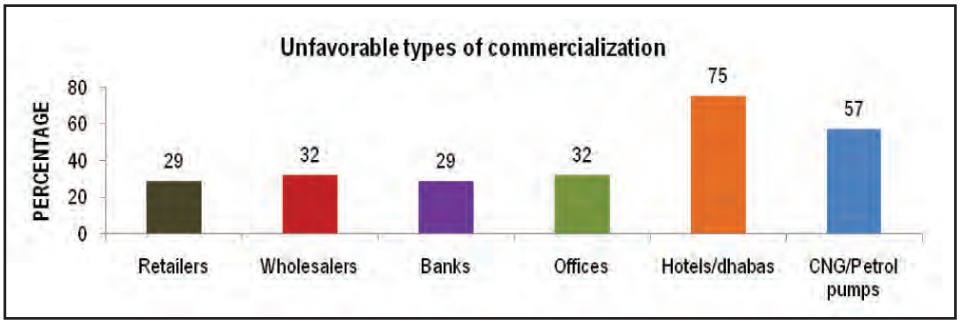


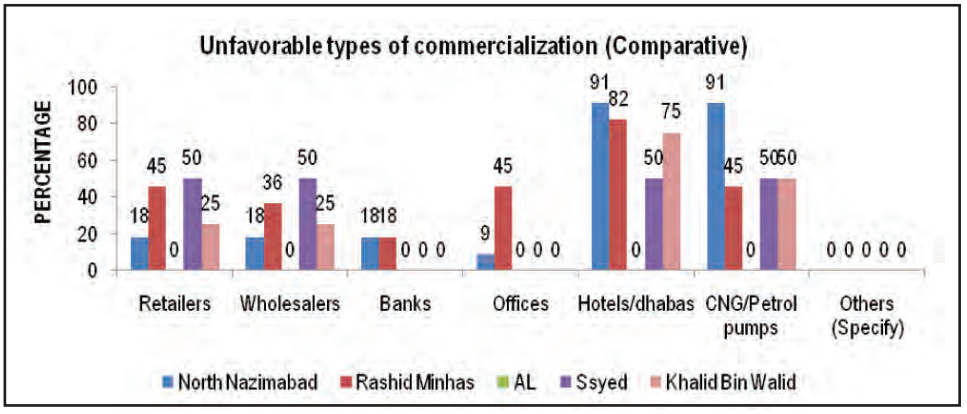
· Favorable and unfavorable commercial activities

The commercial activity that was looked upon most favorably by the general respondents was banks (80%) and the second preference being offices (43%) while the commercial activity finding the least favor was road side restaurants (75%) and secondly petrol pumps/CNG (57%).



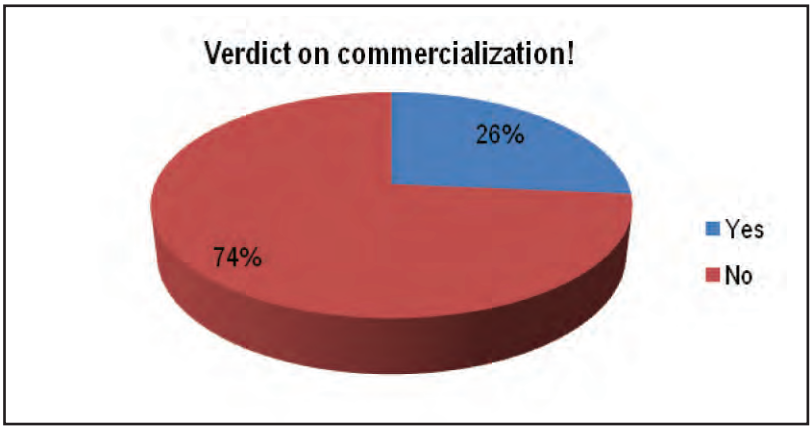

Favorable types of commercialization (Comparative)
PERCENTAGE
120
100
80
60
40
20
0
25 9 0 0 0
33 45 100 0 50
92 64 0 100 100
33 45 0 50 75
0 18 0 0 25
0 18 0 0 0
8 0 0 0 0
Retailers
Wholesalers
Banks
Offices
Hotels/dhabas
CNG/Petrol pumps
Others (Specify)
North Nazimabad
Rashid Minhas
AL
Ssyed
Khalid Bin Walid

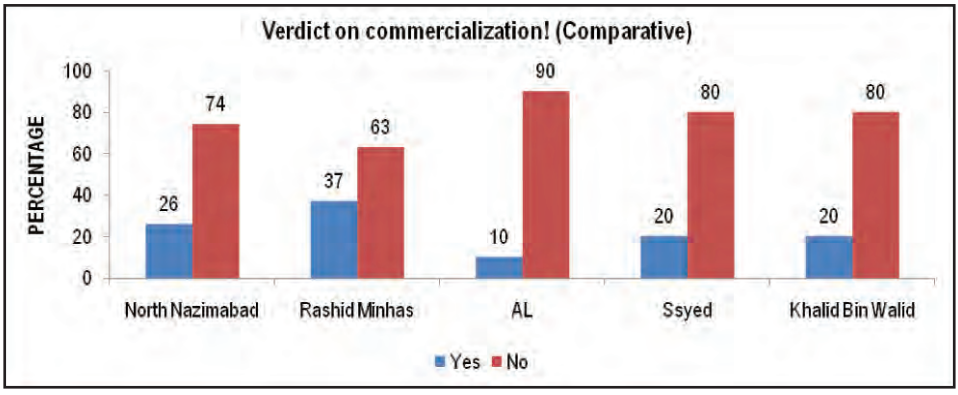

Unfavorable types of commercialization
PERCENTAGE
80
60
40
20
0
29
32
29
32
75
57
Retailers
Wholesalers
Banks
Offices
Hotels/dhabas
CNG/Petrol pumps


Unfavorable types of commercialization (Comparative)
PERCENTAGE
100
80
60
40
20
0
18 45 0 50 25
18 36 0 50 25
18 18 0 0 0
9 45 0 0 0
91 82 0 50 75
91 45 0 50 50
0 0 0 0 0
Retailers
Wholesalers
Banks
Offices
Hotels/dhabas
CNG/Petrol pumps
Others (Specify)
North Nazimabad
Rashid Minhas
AL
Ssyed
Khalid Bin Walid

. Verdict on commercialization

Of all the respondents questioned, 74% opposed commercialization in their localities. The opposition in terms percentages was highest along the three roads in P.E.C.H.S (Jamshed Town) - Allama Iqbal Road, Sir Syed Road and Khalid Bin Walid Road – where respondents expressed the highest level of rejection to commercialization (90%, 80% and 85% respectively).





Key findings and implications for policy – An assessment

The data generated in the survey offers a majority view against commercialization and endorses generally held perceptions relating to the adverse impacts. It nevertheless offers some interesting variations. It is quite clear that a much higher level of opposition has been voiced against commercialization and a significantly greater concern has been shown on the adverse impacts by the respondents residing along the three surveyed roads in P.E.C.H.S (Jamshed Town) – Allama Iqbal Road, Sir Syed Road and Khalid Bin Walid Road as compared to the respondents questioned along the Sher Shah Suri Road, North Nazimabad and the Rashid Minhas Road.

Variations in level of impact

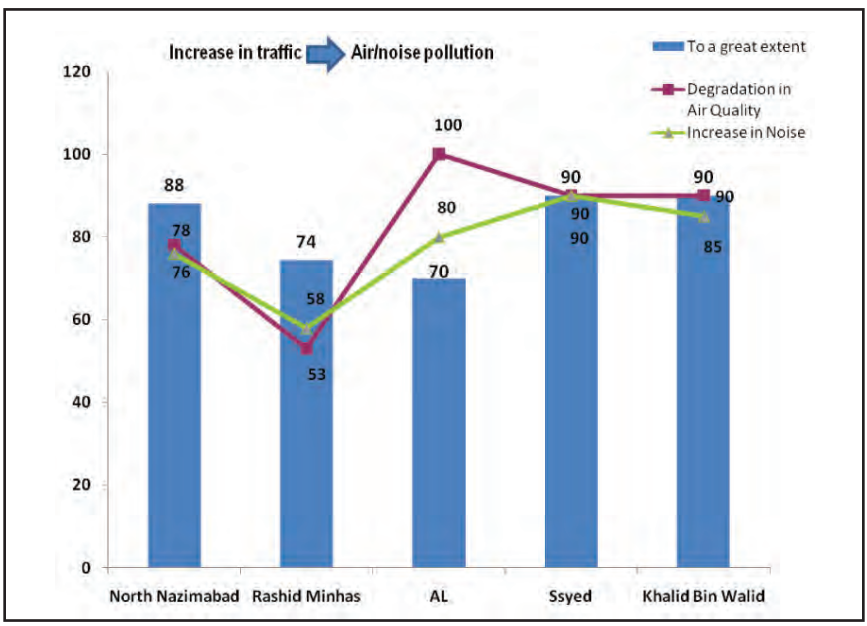
There was a high level of variation documented when respondents were questioned on their level of satisfaction with commercialization - whether commercialization was planned or un-planned and the overall verdict on commercialization *(see Figures 31-33 & 36-37)*. Similar was the case when views were solicited about the impact on aesthetics of the area and loss of vegetation *(see Figures 4, 5 & 6)*. The possible causes to this variation may include the fact that firstly the Sher Shah Suri Road, North Nazimabad and Rashid Minhas Road are much wider traffic corridors, having probably a greater capacity to dilute some key impacts of commercialization and secondly, commercialization activities on these roads have been more spaced out and less rapid than in the case of the P.E.C.H.S roads. This conclusion seems to be endorsed by another interesting finding where 48% and 26% respondents along Sher Shah Suri Road, North Nazimabad and Rashid Minhas Road answered that they don't know if the aesthetics in their localities have been impaired or not as a result of commercialization *(see Figure 5)*. A spaced out changed in land use and taking place on a larger landscape may not have that potent an impact on the residents as compared to a sudden and more visible change and that too in a more congested and confined environment. It is also possible that this variation is attributable to the differing environmental profiles. In response to the question relating with the loss of vegetation, the respondents residing along the Sher Shah Suri Road, North Nazimabad and Rashid Minhas Road (68% and 43% respectively) declared that their area was never very green anyway.

Traffic: The priority concern

The respondents were asked to consider and prioritize amongst a number of possible impacts of commercialization related activities in their localities and it is quite clear with a number of data sets corroborating this finding that traffic related problems have registered the priority concern. 83% of the respondents were of the view that traffic volumes have increased to a great extent. When the respondents were asked to identify as to which service or activity they were totally dissatisfied with – traffic scored

the highest negative percentage (38%) – *(see Figure 39)*. Understandably, the highest percentage was obtained for Khalid Bin Walid Road (90%) that supports a string of car showrooms all across its stretch on both sides. In this regard, it should serve as an eye opener for the urban managers that 100% of the respondents surveyed along Khalid Bin Walid Road identified car showrooms as the worst culprits among the various commercial activities taking place in the area *(see Figure 25)*.

The heightened concerns related to increase in traffic were further endorsed when the respondents were asked to rate on a scale of 1-10, the various possible consequences of commercialization of roads in terms of their severity of impact on the quality of lives of the respondents *(see Figure 21)*. It was found that three consequences, related directly and indirectly with increase in the traffic volumes in the survey areas scored the highest namely, degradation of air quality (78%), increase in noise levels (76%) and increase in traffic volumes (72%). Owing to the narrower width of the traffic corridors and higher prevalence of automobile related activities, the related concerns were again higher in the P.E.C.H.S roads. Respondents along the Allama Iqbal Road identified the main road as the most encroached upon public space. Car showrooms were identified as the commercial activity causing the most concern by 100%, 80% and 80% respondents respectively that resided along the Khalid Bin Walid Road, Allama Iqbal Road and Sir Syed Road *(see Figure 13)*. An interesting and revealing correlation was established between the increase in traffic and the degradation of



air quality and increase in noise levels. A graph was plotted *(see Figure 40)* where the answers of the respondents were correlated who had reported that traffic has increased to a great extent and had then given the worst rating to degradation in air quality and increase in noise levels in relation to adverse impacts of commercialization. It is interesting to note that apart from Allama Iqbal Road, a direct relation is established between the reporting of increase in traffic to the most severe concerns regarding air quality degradation and increase in noise levels. Allama Iqbal Road stands out as an exception. One possible reason could be that Allama Iqbal Road, housing the busy commercial center of Tariq Road, already prior to the 2004 commercialization catered to a heavy traffic load. As such a significant change in traffic levels may not have been felt though the quality of life indicators register a high negative value.

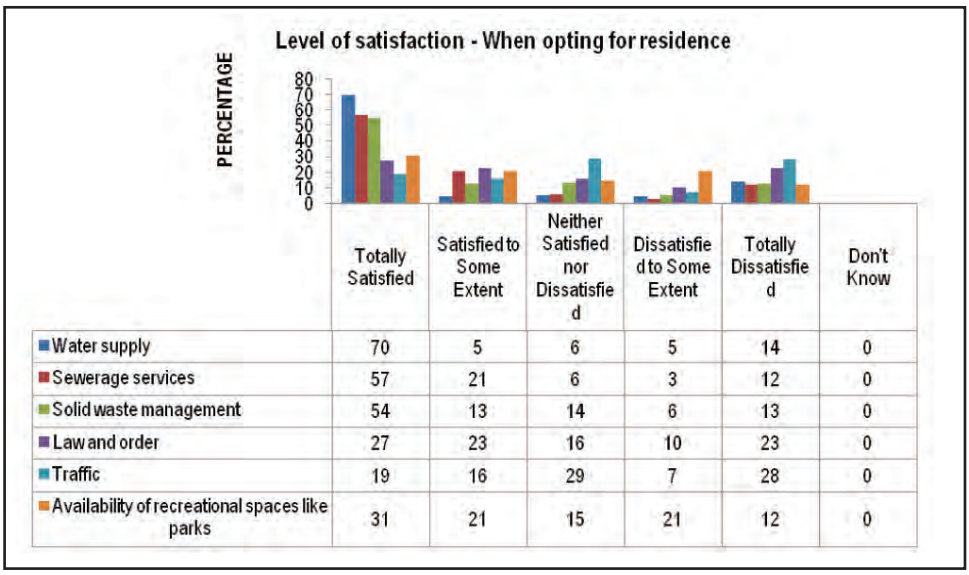
Civic utilities under strain

In response to questions concerning infrastructure rehabilitation work and impact on civic utilities it was interesting to note that the one exception where impact was considered low and lesser concern was expressed was water supply (20%) – *(see Figure 22)*. When the respondents were asked to identify as to which service or activity they were totally satisfied with – water supply scored the most favorable percentage (45%) – *(see Figure 41)*. This higher favorable rating may not imply that water supply situation in the affected areas have not been adversely impacted, rather it may be attributed to the fact that firstly, in case of water supply more options are available to the consumers to employ alternative solutions. Secondly, it may also be due to the fact that as compared to other services such as power supply and solid waste where more consumption and generation respectively takes place in the commercial outlets, lesser use of water is made during the daytime when measured on a comparative scale.

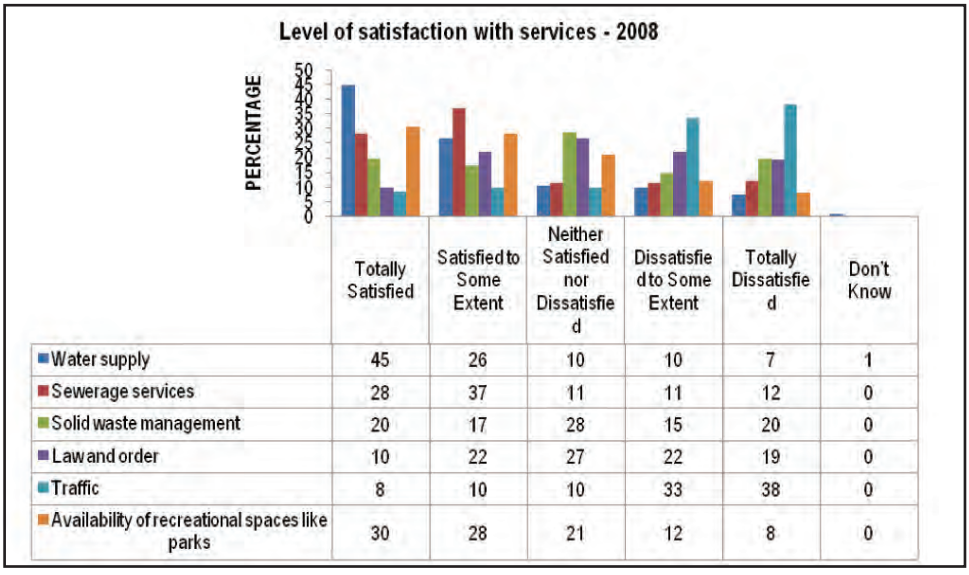
A drastic decline in quality of life indicators

An interesting comparison was designed in the questionnaire when the respondents were asked to rate in relative terms their level of satisfaction or non-satisfaction with a number of services/facilities of their localities when they started residence in the area *(see Figure 41)* and same question was then asked within the context of the present day situation. It is interesting that the key performance benchmark i.e. total satisfaction, registered a decline in the case of each service/utility *(see Figure 42)*.

To assess the level of degradation that has taken place in the affected areas in the last few years, a co-relation was created between two separate data sets. It was established as to how many of the respondents that had felt totally satisfied with the solid waste and the traffic situation at the time of starting residence in the area had now indicated both solid waste



	Totally Satisfied	Satisfied to Some Extent	Neither Satisfied nor Dissatisfied	Dissatisfied to Some Extent	Totally Dissatisfied	Don't Know
Water supply	70	5	6	5	14	0
Sewerage services	57	21	6	3	12	0
Solid waste management	54	13	14	6	13	0
Law and order	27	23	16	10	23	0
Traffic	19	16	29	7	28	0
Availability of recreational spaces like parks	31	21	15	21	12	0



	Totally Satisfied	Satisfied to Some Extent	Neither Satisfied nor Dissatisfied	Dissatisfied to Some Extent	Totally Dissatisfied	Don't Know
Water supply	45	26	10	10	7	1
Sewerage services	28	37	11	11	12	0
Solid waste management	20	17	28	15	20	0
Law and order	10	22	27	22	19	0
Traffic	8	10	10	33	38	0
Availability of recreational spaces like parks	30	28	21	12	8	0

and traffic as most severely and adversely impacted as the result of commercialization. It was found that 42% of the respondents who were totally satisfied with the solid waste management in the locality gave this sector the worst rating in relation to adverse impacts of commercialization. It was also found that as much as 78% of the respondents who were totally satisfied with the traffic situation in the locality gave increase in traffic the worst rating in relation to adverse impacts of commercialization.

An interesting statistic relates with the impact of growing commercialization activities on the property values. It is generally believed that commercialization of a certain locality increases the land value of the commercialized land parcel. However, 62% of the respondents negated this belief. Does this statistic represent a shift in public perceptions or in the attributes related to land valuation in the city? This finding indicates the need for further research by all concerned.

One reason why green environmental issues such as loss of vegetation figured less prominently among the concerns documented by the respondents can be attributed to a lack of or limited scale of availability of green areas and vegetative cover in the first place. However, the data clearly indicates that social issues such as loss of privacy, law and order are matters of growing citizen concern.

The citizen: Standing outside the loop of the policy to implementation cycle

The survey results in unequivocal terms suggest that a wide gap of communication based on a lack of trust and faith exists between the government agencies/elected representatives and the citizens (see Figure 26). This resounding vote of no-confidence on the civic agencies, despite the fact that the much trumpeted Devolution Plan and the resulting LGO 2001 was supposed to have placed the services and service providers at the doorstep of the common man, should serve as an eye opener. The citizens neither supported the commercialization policy nor are they satisfied with its implementation mechanisms and the resulting impact on their quality of lives. The policy was thrust on them despite their opposition to it and was implemented, as the findings suggest minus the proper infrastructure rehabilitation, planning controls and regulatory oversight. They do not figure in the policy to implementation cycle. It would appear that the citizens when they did voice their concerns, they were not effectively addressed and now seem helpless as the consequences unfold in front of their eyes on a daily basis.

Section 4

The aftermath

environmental and social consequences

4 SECTION

This *Section* sources from the findings of the *Public Opinion Survey* detailed in *Section 3*. The discussion in this *Section* highlights the possible consequences of three critical priority concerns that have been the outcome of the commercialization policy in the perception of the surveyed residents of the affected localities. In the absence of any available quantitative research work/study that could be used to evaluate the pre-post commercialization policy impacts on the environment and in view of the financial constraints associated with the present study that prohibited the conduct of the required research, some available research works that can assist in highlighting the possible ramifications (in some cases in the Study Areas) have been sourced. This in no way implies that the research works that have been referenced were specifically targeted to link the relevant issues with land use. The objective is to provide glimpses of the possible environmental consequences associated with the unplanned commercialization of multiple traffic corridors in the city. As such, the discussion in this Section should be read and understood within the context of the associated limitations and shortcomings of this approach. The consequences that have been selected and have received the priority concern of the surveyed residents are listed as follows.

1. Increase in traffic
    - Capacity of roads, operation of transport system and road environment
    - Ambient air quality and noise levels
    - Death and Injuries due to road traffic accidents

2. Impact on pedestrian infrastructure
3. Crime and security

Increase in traffic

In the year 2005-6, a Report was prepared by *SUPARCO (Pakistan Space & Upper Atmosphere Research Commission)* to summarize the findings of the project *Feasibility Study & Development of Transportation Control Plan of Karachi Metropolis for the Transport & Communication Department (TCD), City District Government Karachi*. The main objective of the *Study* was assessment of the impact of operation of vehicular traffic on physical, living and social environment of Karachi. Comprehensive surveys extending over 12 months during the year 2005-6 were carried out to determine the level of air pollutants and noise level measurements besides recording traffic volumes at 28 different locations.

Capacity of roads, operation of transport system and road environment
Standards of capacity are related to width of roads. Designed capacity of roads is usually kept greater than the estimated traffic volumes. This capacity varies with the nature and type of road, all purpose, expressway or motorway, together with designed speed, intersections and gradients etc.

Table 4a - Carrying capacity of Carriageway

Width of carriageway	Road capacity/Hr Based on average for whole day
24 ft.	Up to 350 cars
36 ft.	Up to 680 cars
48 ft.	Up to 1500 cars
72 ft.	Up to 1800 cars

Note: the above capacities exclude buses, trucks and other heavy and slow moving vehicles. Trucks and buses are equivalent to 3 passenger car units (pcu) with a minimum average speed of 23 miles per hr. or 37 km/hr.

The *Report* states that *the rapid growth of vehicles has put excessive pressure on the 8000 km. of roadways in Karachi, since on the one hand the urban railways, which constitute 71.7 km. of the surface transport system, of which 30 km. is Karachi Circular Railway (KCR), is not being used to the same degree as the road system, and on the other hand roads have too inadequate capacity to absorb the ever increasing volumes of traffic*

Table 4b – Number of vehicles at different intersections of the commercialized traffic corridors and capacity of car units at 23 miles/hr.

Sites	Lanes in (12 ft)	Lanes out (12 ft)	Total lanes	Total capacity (cars at 23 miles per hour)	Total number of vehicles (per hour)	Factor of exceedence in capacity
Sohrab Goth	2	2	4	1500	9840	7
Karimabad	3	3	6	1800	9420	5
Liaqatabad #10	3	3	6	1800	9540	5
Tin Hatti	1.5	1.5	3	680	9360	14
Metropole Hotel	2	2	4	1500	8940	6
FTC	3	3	6	1800	8820	5
Drigh Road	2	2	4	1500	9960	7
North Nazimabad	3	3	6	1800	8220	5
Nazimabad	3	3	6	1800	9900	6
Gulshan Chowrangi	3	3	6	1800	10140	6

Source: Feasibility Study & Development of Transportation Control Plan of Karachi Metropolis, SUPARCO, 2007

The *Report* documents that the vehicular count data at the 26 intersections on five major corridors of the city roads indicates that the traffic volume far exceeds the capacity of the roads. Of these 26 intersections, 10 are located on the traffic corridors accorded commercialized status in 2004 by the CDGK.

Ambient air quality and noise levels

Comprehensive surveys were carried out to determine the ambient air quality and noise levels at 28 designated stations. It is found from the comparison of average pollution levels of different pollutants at the various traffic intersections and at reference points that SO_2 concentration is higher by a factor of 2.5 to 3.38 over the latter. Similarly, average NOx concentration is 7.8-12.9 times higher, CO 6.67-9 times, CO_2 is at some intersections lower by a factor of 0.78 and also 1.44 times higher, PM_{10} 1.1 to 2.3 times, O_3 0.87 to 1.44 times, and noise level is 1.37 to 1.52 times higher than at reference points.

The average pollution level of NOx concentration is higher by a factor of 1.14 – 1.21; CO by 0.67 – 1.11; PM_{10} by 1.06 – 2.06 when compared with that suggested by World Bank Guidelines while the level of SO_2 is lower by a factor of 0.38 -0.51, and O_3 0.16-0.28. On the other hand the noise level deviates by

Table 4c – Ambient air quality data (for sites located on the commercialized roads)

Sites	SO_2 ppb			NOx ppb			CO ppm			CO_2 ppm			PM_{10}		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
Sohrab Goth	39	18	25	237	28	111	13	3	7	443	302	329	460	81	309
Karimabad	39	12	22	195	20	84	13	2	5	395	278	329	435	78	289
Liaqatabad #10	28	18	22	215	32	127	13	3	7	514	296	359	428	148	287
Tin Hatti	20	6	14	214	15	120	14	2	7	615	243	388	352	40	212
Metropole Hotel	34	14	22	233	35	119	10	3	6	639	352	458	326	45	210
FTC	38	13	24	240	32	154	16	2	9	550	292	374	465	105	287
Drigh Road	36	16	24	222	20	93	14	2	8	450	300	361	469	90	229
North Nazimabad	35	18	24	237	27	88	12	3	6	400	300	346	490	135	210
Nazimabad	40	18	25	231	20	90	16	2	7	393	301	355	375	49	234
Gulshan Chowrangi	39	13	24	190	30	120	13	3	8	496	287	397	436	78	289

Source: Feasibility Study & Development of Transportation Control Plan of Karachi Metropolis, SUPARCO, 2007

Table 4d – Ambient air quality data (for sites located on the commercialized roads)

Sites	Noise Db *(A)*		
	Max	Min	Avg
Sohrab Goth	85	69	79
Karimabad	94	67	82
Liaqatabad #10	81	71	76
Tin Hatti	83	69	76
Metropole Hotel	91	69	80
FTC	89	68	78
Drigh Road	90	65	79
North Nazimabad	89	64	77
Nazimabad	88	64	76
Gulshan Chowrangi	94	67	82

Source: Feasibility Study & Development of Transportation Control Plan of Karachi Metropolis, SUPARCO, 2007

Table 4e – Environmental standards

Name of country / Agency	SO_2 ug/m_3	NO_x ug/m_3	CO ug/m_3	CO ppm	Dust/PM_{10} ug/m	NOise dB(A)
Pakistan *(NEQS)*	200 *(70 ppb)* 24 -hourly	50 *(24 ppb)* Yearly average	-	-	-	85 *(sound meter at 7.5 meters from the source)*
World Bank	150 *(53 ppb)* 24 hourly	150 *(73 ppb)* 24 - hourly	-	-	230 24 hourly	-

a factor of 0.87-0.95 from Pakistan NEQS limits which are suggested to be 85 dB *(A)*. It however exceeds the World Bank Guidelines by a factor of 1.06 – 1.17.

Out of the 28 selected locations, 10 are located on the traffic corridors accorded commercialized in 2004 by the CDGK.

The pollution threats from the Karachi traffic

- The higher concentration of CO and lower concentration of CO_2 in the emissions from CNG as well as gasoline operated engines, are accompanied by high content of HC in the exhaust emission
- Low levels of O_2 are a characteristic feature of the vehicles operating on the roads. This leads to a reducing atmosphere and hence to high levels of CO besides the presence of HC, H_2 and H_2S in the exhaust emissions.
- Concentration of NOx is high for almost all modes of vehicles operating on CNG, LPG, gasoline, or Diesel oil roads in Karachi
- High concentration of NOx is noted among all vehicles using diesel oil and light vehicles using CNG, along with rickshaws and Suzuki pickups using LPG. The exhaust emissions from these vehicles also shows high levels of CO as well as presence of HC, H2 and H2S that is indication of reducing environment
- Temperature of exhaust emissions *(flu gas)* from vehicles on road is higher for each mode of traffic and it is considerably higher when compared with that observed for tuned engines. This leads to rise in ambient temperature in the micro-environment
- Higher concentrations of NOx are observed in the exhaust emissions from unturned vehicles using CNG, LPG and diesel oil
- High level of SO_2 emission from rickshaws and some Suzuki pickups, despite their conversion to LPG is attributed to the use of dirty lubricating oil in the fuel tank. Particulate matter emissions reported here, as PM_{10} is characteristic of diesel oils usage as well as vehicles with two stroke engines like rickshaws and motor cycles, and also defective engines of vehicles

- Particulate matter emissions from rickshaws remains high despite their conversion to LPG usage. This is attributed to their two stroke engines for which they use cheap lubricants

Source: Feasibility Study & Development of Transportation Control Plan of Karachi Metropolis, SUPARCO, 2007

This Report, released in the year 2007 clearly indicates that at last 10 of the major traffic corridors that were commercialized are severely stressed on a number of operational and pollution related counts. Such a Study could have formed part of the feasibility conducted to assess the viability of the proposed roads commercialization policy. However, that did not happen, with obvious consequences.

Death and Injuries due to road traffic accidents

Road traffic accidents (RTA) are a significant but preventable cause of death, disability and economic loss in developing countries. Among males of the economically active age group, motor vehicle injuries are the third most important cause of death in these countries. It is projected that RTA will be the second most common cause of disability-adjusted life years in developing countries in the year 2020. Yet in countries like Pakistan, accurate epidemiological data on injuries is often difficult to obtain. In a *Research Paper - Estimating deaths and injuries due to road traffic accidents in Karachi, Pakistan,* through the capture-recapture method, prepared by *Junaid A.Razzak, Department of Community Health Sciences, the Aga Khan University,* Karachi, Pakistan and *Stephen P.Luby* published in the *International Journal of Epidemiology* in 1998, the capture-recapture method was applied to estimate death and injury due to RTA in Karachi.

The capture-recapture method is based on matching two independent samples to arrive at an estimate of the total. For Karachi, the two-sample capture-recapture method was used by accessing traffic police records as one source of capture and the logs of a non-government ambulance service - *Edhi Ambulance Service- (EAS)* as the second capture source for the same 10 months and 20 days for which the year 1994 data was available. The researchers generated a conservative adjusted estimate of injuries and deaths by considering entries in the two sources as matched if they reported the same date, time, and place, and at least one of the other matching variable, of name, vehicle registration number, vehicle types or patient outcome. They then compared the estimated rates with the police rates. Each injury case in the police data was matched with EAS data on seven variables. The name of the victim, date, time and place of the accident, the types and the registration number of the vehicle involved, and the outcome *(alive or dead)*. The degree of matching was then defined based on four different standards *(A-D)*. Each of the standards required date and time to be the same, and place to be similar. Standard A, the strictest standard required the name of the victim, the date, time and place of the event, the type of registration number of vehicles involved and the patient outcome *(survived or dead)* to be matched. For standards B-D the criteria were progressively slackened, so that each subsequent standard required one less criteria for match.

Table 4f – the four different standards used to define a match between ambulance and police records of road traffic accidents in Karachi, 1994

Standard	Date	Time	Place	Name of victim, registration no., vehicles, outcome
A	Same	Same	Similar	All same
B	Same	Same	Similar	Any three of the above
C	Same	Same	Similar	Any two of the above
D	Same	Same	Similar	Any one of the above

Source: Estimating deaths and injuries due to road traffic accidents in Karachi, Pakistan, through the capture-recapture method, Junaid A.Razzak, Department of Community Health Sciences, the Aga Khan University, Karachi, Pakistan and Stephen P.Luby, 1997

Results

Records from traffic police identified 544 deaths and 793 injuries from RTA in Karachi during the 10 months 20 day study period, while the ambulance services data identified 343 deaths and 2048 injuries for the same time period. Most of the officially, as well as unofficially, reported victims were males *(93% and 89% for deaths and 88% and 86% for injuries respectively)*. The most frequent victims in both sources were pedestrians *(35% and 30%)* and motorcyclists *(19% and 20%)*. The incidence of deaths due to RTA using the capture-recapture method was at-least 963 deaths which is equivalent to 9.72 deaths/100,000 population, 11.3 deaths/10000 vehicles and 3.9 deaths/km of road. Estimated rates for serious injuries due to RTA were 190 injuries/100,000 population, 218 injuries/10,000 vehicles, and 77 injuries/km of road. The case fatality rate was 5.1.

Even with the least restrictive *(most sensitive)* matching criteria, criteria D *(requiring a matching date, time and place with one of the following: name of victim, registration number, vehicle or outcome matched)* the serious injury rates from road traffic injuries in Karachi were 21 times higher than what is officially reported by the police. The research indicates that even these most conservative estimates show that the public health importance of road traffic injuries in Karachi is markedly understated by official statistics. The research also shows that in fact, the total number of injuries for Karachi is greater than the official estimate of the road traffic injuries for the whole country, which has over ten times Karachi's population, on the other hand is 179% higher than the 5.49/100,000 reported by police and 23.4% higher than the unofficial figure of 3.46 reported by EAS.

Table 4g – Estimation of deaths and injuries due to road traffic accidents in Karachi for 1994, using the capture-recapture method

Match type	Outcome	Number of matches	Numbers unmatched in police date	Numbers unmatched in Edhi data	Estimated number of total deaths/ injuries	Estimated rate per 199,000 persons per year	95% confidence interval for rate
A	Deaths	68	476	275	3116	31.5	25.5-38
	Injuries	39	754	2009	47140	476	335-626
B	Deaths	139	405	204	1524	15.4	13.8-17.2
	Injuries	68	725	1980	27063	273	214-337
C	Deaths	209	335	134	1013	10.3	10.1-11.0
	Injuries	92	701	1956	19983	202	166-242
D	Deaths	220	324	123	963	9.7	9.2-10.4
	Injuries	98	695	1950	18760	189	157-226

Source: Estimating deaths and injuries due to road traffic accidents in Karachi, Pakistan, through the capture-recapture method, Junaid A.Razzak, Department of Community Health Sciences, the Aga Khan University, Karachi, Pakistan and Stephen P.Luby, 1997

It was also found that compared to other cities the death rates for Karachi are much higher than cities in developed countries. For example, while 11.3 people die per 10,000 vehicles registered in Karachi, 1.4 people die in Tokyo, and 2.8 people die in Greater Manchester *(UK)* for a similar number of vehicles. The rates are however, comparable to developing world cities like Bangkok, Thailand with rates of 10 deaths/10,000 vehicles.

The research paper ends by stating that Pakistan, like other developing countries, is likely to have an increase in traffic, which can lead to substantially increased deaths and disability unless efforts are made to understand the problems and steps taken now. The number of vehicles registered now is 21, 47, 610 - significantly more than when the RTI research was conducted!

Impact on pedestrian infrastructure

An initiative was recently undertaken (2009) - *Preliminary Survey of Pedestrian Infrastructure in Four Area of Karachi* to highlight the issue of 'walkability' in Karachi – walkability refers to the safety, security, economy, and convenience of traveling by foot (The Walkability Index comprises of three components: safety and security, convenience, and degree of policy support. The survey has focused on the first two components only). The aim of this initiative was to raise awareness amongst stakeholders and to lobby and work with concerned authorities for better planning of and increased investments in pedestrian infrastructure. Students of architecture from Indus Valley School of Arts and Architecture, Karachi and the National College of Arts, Lahore were supervised in carrying out the survey. The students volunteered as part of their summer curricular requirements. The survey is based on the *Global Walkability Index (GWI)*, a standardized field survey which helps compare pedestrian environment between different cities and areas within a city.

Background

In most developing world cities, a large number of citizens walk as part of their daily social, recreational, and livelihood activities. The Study states that in Karachi, almost 21 percent of daily trips are made entirely on foot, and of the nearly 66 percent of the commuters who use different modes of public transport, a large percentage walk some or large part of their daily commute. Every trip begins and ends with a walking trip. Nearly all trips made by people entail some walking, either directly to a destination or to another mode of transport. The extent to which pedestrian infrastructure allows people to walk with ease and safety determines quality of the pedestrian environment and the overall transportation network.

Road infrastructure and pedestrian environment

The *Study* states that pedestrian infrastructure in Karachi is, to put it mildly, inadequate – often misused, poorly designed, badly maintained and sometimes dangerous. Pedestrian convenience and safety are often a blind spot or a low priority for authorities, and recent investments in road infrastructure by CDGK bear this out. To accommodate ever-increasing number of vehicles in Karachi, authorities have embarked on upgrading and expanding road infrastructure as a way of dealing with growing traffic congestion. For instance, new road building and widening projects have reduced the width or simply removed footpaths in a number of places. In other instances, flyovers, bridges and underpasses have created new pedestrian accessibility and safety issues. Signal free corridors

Global Walkability Index *(GWI)*

Component 1: Safety and Security

This first component determines the relative safety and security of the walking environment, e.g., the odds a pedestrian would be hit by a motor vehicle? What safety measures are in place at major crossings and intersections? How safe would the pedestrians feel along walking paths from crime?

Component 2: Convenience and Attractiveness

The second component reflects the relative convenience and attractiveness of the pedestrian network, e.g., whether the pedestrians have to walk a kilometer out of their way just to cross a major road? Is there sufficient coverage from weather elements along major walking paths? Are paths blocked with temporary and permanent obstructions, such as parked cars or poorly placed telephone poles or signage?

Component 3: Policy Support

The third component looks at the degree to which municipal governments support improvements in pedestrian infrastructure and related services. Is there a non-motorized planning program? Is there a budget for pedestrian planning? Are pedestrian networks included in the city master plan? The first two survey components are largely observational, in that scoring against each variable is based on the survey team's observations, whereas the third, "Policy Support' is to be assessed based on interviews with officials concerned

have eliminated at-grade crossings, making it difficult and dangerous for people, especially women and children, to cross. Road crossings are badly designed and often not marked, meaning vehicles rarely ever give right of way to pedestrians (note: a very high number of pedestrian casualties occur while attempting to cross roads). Footpaths do not follow a standardized design and are for the most part decrepit, poorly maintained, encroached upon by cars, vendors, shop keepers, poles, transformers, telephone boxes, postal boxes, signage and the like. All of this makes for a chaotic and unpleasant walking experience for millions of people every day.

Human Costs

People walking on city roads in developing countries are much more at risk of injury or death than they are in developed countries – according to one study, between 86 and 172 percent greater risk. In Karachi, road accidents kill and maim thousands of people each year and the numbers are growing. During 2008, there were 32,497 injuries resulting from road accidents in Karachi (see table 4i for breakdown). Of the total number injured, 60 percent were those riding on bicycles and motorcycles and 22 percent were pedestrians. However, of the total fatalities (1,185) 37 percent were bicycle/motorcycle riders, while pedestrians were 39 percent. Comparison of data on pedestrian injuries and fatalities between 2007 and 2008 shows an increase of 21 percent (from 1355 to 1628) and 50 percent (from 304 to 457) in the number who were seriously injured or died as a result of road accidents. Pedestrians suffered the second highest number of injuries (both minor and serious), but had the highest rate of fatalities. During the first quarter of 2009 alone, over 145 pedestrians lost their lives in road accidents. This is nearly half the number of all deaths in road accidents for the period. The first quarter figures show a 40 percent increase in death of pedestrians over the corresponding period in 2008.

Table 4h- Summary of Components and Variables

Security and Safety	Walking path modal conflict Crossing safety Security from Crime Motorist Behavior
Convenience and Attractiveness	Amenities Disability Infrastructure & sidewalk Width Maintenance and Cleanliness Obstructions Availability of Crossings
Policy Support	Funding and Resources Devoted to Pedestrian Planning Presence of Relevant Urban Design Guidelines Existence and Enforcement of Pedestrian Safety Laws Regulations Degree of Public Outreach for Pedestrian and Driving Safety and Etiquette

Table 4i – Estimation of deaths and injuries due to road traffic accidents in Karachi for 1994, using the capture-recapture method

Road User Group	Minor		Serious		Fatal	
	2007	2008	2007	2008	2007	2008
Rider/Pillion riders	18941	16042	2723	3014	325	441
Pedestrians	5434	5037	1355	1628	304	457
Passengers	2628	2726	678	730	108	163
Drivers	594	618	224	185	30	44
Unknown	44	78	35	43	125	80
Total	27641	24501	5015	5600	892	1185

Source: Road Traffic Injury Research and Prevention Centre, JPMC, Karachi

Social Costs

The *Study* also discusses the social costs by stating that beyond death and injury, an unsafe and inconvenient pedestrian environment impedes social and economic mobility of poor people. Walking everyday in a chaotic road environment like that of Karachi can be both unpleasant and unsafe. Moreover, it reduces the time and energy that people could otherwise devote to work, family, and other productive activities. The absence of an enabling pedestrian environment also reflects poorly on the dignity and respect accorded to citizens by the state, and on how outsiders *(potential investors)* view the city. The former mayor of Bogotá, Enrique Penalosa, argues that inadequate and poorly maintained road and cycling infrastructure is a sign of a lack of democracy in a society, *it says that those who walk or cycle are not equal citizens to those who ride in cars*.

Survey Results

The survey was carried out in four commercial/residential sites, Clifton, Tariq Road, Gurumandar and NIPA. Each of the areas measured 500x 500 meters *(250,000 sq. meters)* and covered 36 main roads with a combined length of 20.58 kilometres. The survey was conducted during the early part of evening peak-hours of traffic. Main findings of the survey are given below.

- In terms of city wise comparison, the walkability index of Karachi is 50, which is much lower than 121 for Bangkok.

- The width and quality *(i.e., measured in terms of temporary and permanent obstacles/encroachments)* of sidewalks and its access for disabled people is the biggest barrier in improving walkability. The second biggest concern is the availability of number of crossings. The survey shows that the number of road-crossings are few and where available, are not considered safe.

- NIPA has the lowest infrastructure rating among all locations. Priority wise NIPA gets the highest priority, as walkability index is the lowest and pedestrian

- There was no observed consistency in design *(width, height, continuity)* of footpaths or road-crossings.

Crime and Security

One of the key human parameters that is necessary for both the occurrence and control of crime is the traffic network. Karachi being the largest city of Pakistan indicates high levels of intensity of street crimes that often has very close relationship with the network of the roads. A *Research Paper - Role of Traffic Network in Monitoring Crime and Violence Patterns in Karachi* prepared by the team of *Prof. Dr. Jamil .H. Kazmi, Professor, Dept. of Geography, University of Karachi, Pakistan* and *Umair-Bin-Zamir, Research Scholar, Dept. of Geography, University of Karachi, Pakistan* has assessed the potential of *Geographical Information Systems (GIS)* for the analysis of crime pattern and its relationship with the road network in Karachi. The *Paper* provides a collective set of methods and techniques for geospatial analysis and 3D mapping of crime scenes. Identification of hotspots has been done by involving different methods of geo-information sciences and subsequently, an assessment of relationships between selected crimes clusters and their spatial neighborhood is investigated by including the urban land use as a backdrop. To validate whether there existed any correlations between specific urban features and existent crime clusters, statistical analyses has been conducted. The results have then been adjusted for the better understanding in 3D environment using state-of-the-art technology of Arc GIS. This combined and mutual effort of crime mapping methods with modern 3D modeling helped to facilitate on the spot clutch of multipart spatial phenomena in mapping of crime that has uses and benefits both for the community and decision makers.

The geography of criminology

The recognition of crime hot spots *(Sherman et al., 1989)* was perhaps a watershed in refocusing attention on spatial features of crime. The geography of crime provides a standpoint on the spatial analysis of crime

and the distribution of police resources, promising new insights regarding the best possible use of these resources. Although the geography of crime is conceptually based on criminology, these two disciplines are distinguished from one another on the basis of the environmental structures within which crime and policing take place. Ogborn *(1993)* describes the relationship between criminology and geography as follows - *Policing arrangements are inherently geographical phenomena*. Scrutinizing the place of the criminal event is focal point for geographers. They are keenly interested in understanding of land usage, street design and traffic patterns, while they also focus towards routine activities and movement of offender and victim. The study of the spatial patterning of crime and criminality has a long and continuous criminological history, and is now entering a new phase with the use of computerized crime mapping systems by the police and researchers in the developed world. One of the recent approaches to the geography of crime is known as *Environmental Criminology*. This is a behaviorist approach, which analyses the physical features and role of crime locations in criminal behavior. Geography of criminology focuses on criminal patterns within particular built environments and analyzes the impacts of these external variables on people's cognitive behavior. *Geography of Criminology* therefore provides a theoretical and conceptual basis for focusing on the context and location of the crime with specific attention to the influence of the crime location on the decision to commit a crime. As such the approach defines a field of reference for geographers who use local environments to explain crime *(Herbert and Hyde, 1985)*.The eventual aim of such an analysis is multidisciplinary: for security services such as the police force to adapt policing strategies according to the incidence of crime, for town planners and architects to create safe environments, and for sociologists and welfare services to neutralize the role of *negative* environments in a social behavior.

Methodology

The methodology of the study was implemented in two phases. The first phase determines the general identification of hotspots developed through the periodic records of police data, by using the interpolation technique in GIS environment. while the other segment involves field survey, gathering of illustration in order to bring out the relationship of the snatching activities with the land use of a study area as well as to explore connection between criminal event in terms of snatching or robbery with the average number of pedestrians and the existing urban design environment, especially the road network. Of critical importance is the design of the *Base Map*. For designing any GIS model, base map is the basic requirement the base map is digitized by using the GIS techniques, broadly ranged from Geo-referencing to final layout composing vectorization

will convert the raster form to vector one, in order to link the geographical and attribute data. Land use parcels, road network are the basic digitized themes while the point of interest and crime event locators are generated by the GPS gained coordinates of the study area.

The 3-D surface is overlaid with other Geo-coded textures, 3-D routes determine the distant-access of crime scene to certain land use and the minimum and maximum distance of crime scene to the other locations. To enhance visual approach and to smooth the progress of further analysis, the minimum distance to the closest robbery and snatching scene is calculated for each building. Then building dataset is classified and colored according to these minimum distance values, which allows exploring the buildings of urban environment closest to high number of robberies and snatching scenes. The other perspective is produced to explain the number of snatching scene closest to certain road or street segment, The higher the segments, the more robberies and snatching events are committed close to it. While the different shades of the segments

P.E.C.H.S, Karachi: A case study

This methodology and related GIS tools were applied to determine the crime pattern and its links with land use and one of the selected project area was Blocks 2 and 3 of P.E.CH.S locality of Karachi. The *Paper* states that random snatching activities are quite dominant in P.E.C.H.S., as the created pinpoint *(Figure 4a)* represents the major crime locations in this area. This map only shows the number of mobile phone snatching events on certain street geometry.

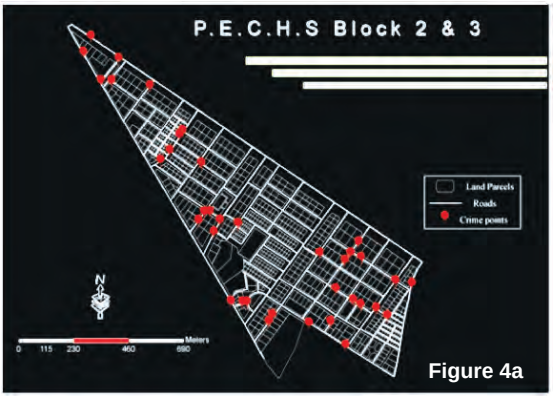


Figure 4a

Spatial distribution of criminal events

For better understanding the event occurrence are noted and plotted. It is indicated that the areas which are affected by such activities with greater frequency are often associated with the roads which are playing a role as a smooth escape path for the offenders. It is also observed that most of the criminal events are near to the intersections of road arteries and both the residential and residential + commercial areas are affected.

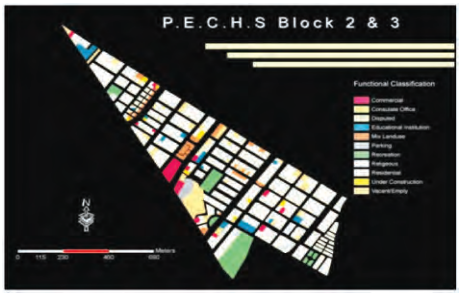


Fig. 4b - Affected areas and associated land use

Table 4j- Data on Mobile Snatching documented for the P.E.C.H.S. Blocks 2/3 during the year 2009 linked with land use

Land Use	No. of Cases
Residential	113
Residential plus commercial	117
Non buiilt up (open spaces)	76

Land use and events relationship

The Figure-4b shows the most effected land use category with the criminal incidents mostly the snatching sort of heads are found in the residential areas while the other heads like dacoity is having a mixed relationship with different categories of land use. The vacant areas which are serving as a parking lot for the vehicles are endangered with stealing of valuables from the vehicles while the snatching activity is mostly practiced in the areas where easiest escape routes are accessible, which are most often located in the areas where there is no private security or barriers are available.

Develop a 'vision' for Karachi

Affordable provision of services and amenities

Sustainable financial growth

Redefine the roles and functions of government, private and informal sector

Role separation - policy, delivery and regulation

Role separation - policy, delivery and regulation

Establish, strengthen and empower viable institutions that plan and implement Karachai's urban growth

Planning and implementation mandate

Political ring fancing

Section 5

Looking ahead

A framework for change

As the city managers now grapple with this crisis in particular and with the overall urban development challenge in general, it is time to plan realistically and with a clear vision of how this economic hub of the country continues to viably perform the role of the commercial engine of the country without in the process disturbing the urban balance of the city. What is needed is the development of a broader vision for the city that comes out of a visioning exercise that involves the relevant stakeholders and that can be contextualized within *A Framework of Change*. The *Framework for Change* has to incorporate the following considerations:

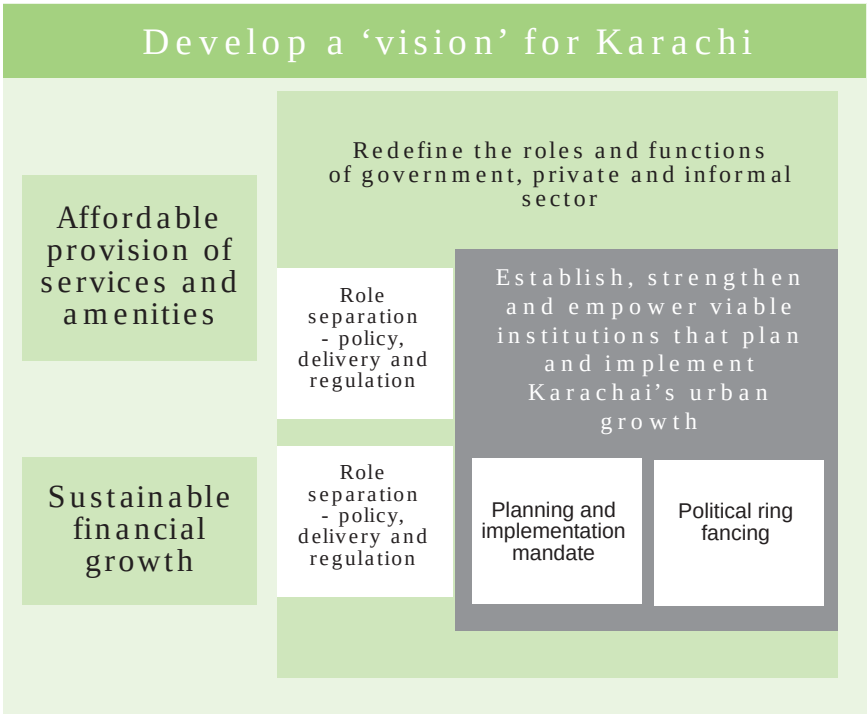
- Institutional arrangement
- Planning controls
- Citizen rights and environmental questions

Institutional arrangement

Ideally, the institution most likely to guarantee protection of a city's interests is a strong city government. It is difficult to have a truly empowered city government in Karachi or for that matter anywhere in Pakistan owing to the lack of recognition for this important tier of governance in the *Constitution of Pakistan*. Even the much trumpeted *Devolution Plan* and the subsequently enacted *Local Government Ordinance 2001* failed to ensure constitutional recognition to the local government tier of governance that continues to function as an appendage of provincial governments. Many of the local government functions are performed on the behest of the provinces. There is little autonomy in what the local governments can do and their existence is dependent upon their relationship with the provincial governments. A number of functions that ought to be performed by the municipal governments are actually taken care of by various departments of the provincial government.

There is a need to establish a supra *Planning & Physical Development Agency* that has the authority to cut across this divide by getting all the various land owning agencies and service providers to sit across the table and plan for the city in a harmonious manner, collectively and not in a disjointed manner as is the case at present. An institutional and physical space should be created for an interaction between politicians, government planners and bureaucrats and the people *(formal and informal interest groups and service providers)*. The *Agency* than has to be vested with the powers to not only plan, based on sound research, data generation and analysis but also to supervise the financing and implementation of the planning recommendations. For this *Agency* to succeed it has to act with independence and authority and requires *political ring fencing i*n terms of its access to financing, decision making and powers of implementation.

Fig 5a - Visioning and structuring
a Framework for Change



The main functions of the *Planning & Physical Development Agency* would include:

- Research and documentation of data indicators/trends
- Analysis of data
- Information sharing and consultation with civil society stakeholders
- Strategizing/planning and recommending
- Supervising the financing, implementation and monitoring

The *Agency* should also provide a forum for facilitating and promoting models of public-private partnerships to stimulate growth and manage the process with participation of the relevant stakeholders.

Planning controls

It is becoming increasingly evident that commercialization of land sans planning controls is now a phenomenon that is having adverse consequences on the urban environment. Ribbon commercialization is one aspect of

A planners code of ethics
Planners responsibility to the public *(From the American Institute of Certified Planners (AICP) Code of Ethics and Professional Conduct)*
A planner must have special concern for the long range consequences of present actions
A planner must pay special attention to the interrelatedness of decisions
A planner must strive to provide full, clear and accurate information on planning issues to citizens and government decision-makers
A planner must strive to give citizens the opportunity to have a meaningful impact on the development of plans and programs. Participation should be broad enough to include people who lack formal organizations or influence
A planner must strive to expand choice and opportunity for all persons, recognizing a special responsibility to plan for the needs of disadvantaged groups and persons, and must urge the alteration of policies, institutions and decisions which oppose such needs
A planner must strive to protect the integrity of the natural environment
A planner must strive for excellence of environmental design and endeavor to conserve the heritage of the built environment

this trend that is causing much distress. It may have assisted in filling the financial coffers of the government but at the cost of degrading the quality of lives of the affected citizens. A large number of areas within the city both in the inner city and beyond, facing urban blight are in desperate need of an urban renewal exercise and it may now require some urgent and innovative planning to redress this trend. The principle concerns and priorities underlying the planning recommendations should clearly focus on how commercial growth can be effectively accommodated within the emerging development pattern of the city in a way that it best serves to improve the quality of life of the citizens and contribute to the overall sustained economic growth of the city. It is now being suggested that zones specified for either exclusive *commercial land use/densification* or *mixed uses* or both are identified in the city to locate the burgeoning commercial growth based on a set of carefully established selection criteria and those zones be planned and governed through sound planning controls and regulatory mechanisms. The *criteria for selection* should both be established based on a rigorous research and stakeholder consultation exercise and should also be followed while framing the required policy and planning by the involvement of all the major stakeholders. The core focus of the selection process may include the following considerations:

- The existing land use ownership and habitation pattern and historic development of the area
- Social and environmental profile – undertaking of a *Strategic Environmental Assessment (SEA)* at the planning stage to be followed by detailed *Environmental Impact Assessments* at the project formulation stage
- Availability of civic infrastructure/utilities and possibilities for further extension
- Access to modes of public/private transportation – present and in the planning stage
- The level of stakeholder willingness and participation
- Forecasting and projections of financial and management feasibilities

The process for it to succeed and sustain has to be inclusive and comprehensive in terms of the research and consultation that it goes through from the policy making to the implementation and operation cycle.

Civic rights and environmental questions

In a divided and conflict driven space, where a *trust deficit* exists between the citizens and the service providers, it is all the more important that mechanisms be put in place that ensure transparency in functions of government agencies and strengthen the inclusive nature and public legitimacy of decision making processes. It is also proposed that within the structural and institutional framework of the *Planning & Physical Development Agency* an *Oversight Committee* be formed that acts as an external monitoring and citizens representative body providing civil society input and linking up with the *Agency* in a consultative, advisory and monitoring mode. The *Terms of Reference* of the *Oversight Committee* would have to be drafted to suit its mandate while its composition would ensure its representative nature of the wider citizen and stakeholder profile and ensure that it has a meaningful role to play in terms of its capacity to effectively influence the decision making processes. The representation may come from NGO's/CBO's, academics, engineering and planning bodies, legal experts, business, commerce and trade bodies, intellectuals etc. The *Committee* can act as an *interface* between the *Agency* and the citizens.

Strategic Environmental Assessmen (SEA)

With regards strengthening the element of public oversight and including processes and mechanisms at the policy making/planning stage to reduce the possibilities of finalizing an unsustainable and non environment friendly project, it is being recommended to incorporate and accord legal status to the process of conducting a *Strategic Environmental Assessment*

(SEA). While as per the requirements of the *Pakistan Environmental Protection Act 1997,* conducting of *Initial Environmental Examination (IEE)* and *Environmental Impact Assessment (EIA)* of projects is required depending on the nature and scope of the project but this intervention takes place at the stage of project implementation. It is felt that by then so much has been invested in the process that the likelihoods withdrawing a potentially damaging project altogether or of limiting and effectively mitigating any possible environmental damage accruing as a result of the proposed project are lessened. This is more of a problem in a country like Pakistan having weak regulatory controls and lesser priority on environmental concerns. SEA is a process to ensure that at the very inception phase significant environmental effects arising from policies, plans and programs are identified, assessed, mitigated, communicated to decision-makers, monitored and that opportunities for public involvement are provided. Conducting an SEA is an iterative process which should be carried out alongside the development of the plan or program.

SEA has become an important instrument to help to achieve sustainable development in public planning and policy making. The importance of SEA is widely recognized. Particular benefits of SEA include:

- To support sustainable development;
- To improve the evidence base for strategic decisions;
  To facilitate and respond to consultation with stakeholders;
- To streamline other processes such as Environmental Impact Assessments of individual development projects.

SEA is a generic tool which can be used in a variety of situations. A particular form of SEA has been introduced by the European Union Directive 2001/42/EC. This requires national, regional and local authorities in Member States to carry out strategic environmental assessment on certain plans and programs that they promote. In the UK, various approaches to conducting strategic assessments and appraisals are already well developed including environmental appraisal of local authority land-use plans and sustainability appraisal of regional planning guidance. These existing approaches are being strengthened through implementation of the SEA Directive.

The findings of the assessment are presented in an environmental report that is consulted upon, with the public, alongside a draft of the plan. Issues raised in the environmental report and in responses to the consultation must be considered by the plan-maker before the plan is formally adopted.

Tools, techniques and approaches that can be applied to SEA	
Expert judgement	Providing evidence based expert judgement on particular environmental issues
Assessing cumulative effects on the environment	Identifying and addressing cumulative effects as part of the SEA process
Best Available Technique (BAT) and Best Practicable	How plan makers undertaking SEA may need to consider BAT or BPEO during assessment of environmental effects or the implementation of the plan
Environmental Option (BPEO) Constraints and opportunities mapping	How GIS techniques can provide a spatial understanding of SEA constraints (and opportunities)
Consultation and participation	Tools that can be used to involve stakeholders and the public in SEA
Cost benefit analysis techniques	How CBA techniques could be used to compare technical, environmental and social impacts for SEA
Ecological foot printing	A technique for expressing the impact of proposals as a bioproductive area equivalent or 'footprint'
Horizon scanning	Using horizon scanning in SEA to ensure that plans consider a long-term perspective
Sustainability Appraisal and Integrated Appraisal	Bringing together environmental, social and economic considerations in the assessment process
Modeling	How conceptual models and modelling can be used to better predict impacts
Network (Causal Chain) analysis	Used to ascertain probable impacts and benefits on sustainability identifying outcomes via a chain of causation. Also used to identify actions that may achieve desired objectives
Quality of life capital	Based on deciding what matters and why, quality of life capital aims to identify priorities for guiding land-use planning and management decisions
Scenario testing	Scenario testing as a method of forecasting
Sustainability Threshold Assessment (STA)	A pragmatic approach used in land use planning that facilitates bringing together impacts across different media within a sustainability context

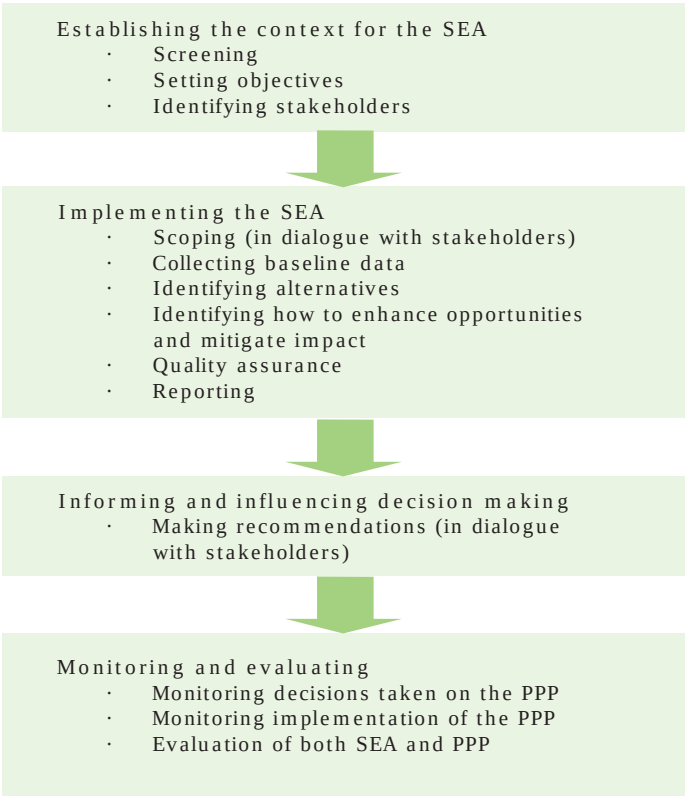
SEA Up-streaming environmental considerations into the decision making hierarchy	
Strategic Environmental Assessment	Policies Plans Programs
Environmental Impact Assessment	Projects

Understanding SEA

SEA refers to a range of *analytical and participatory approaches that aim to integrate environmental considerations into policies, plans and programs and evaluate the inter linkages with economic and social considerations*. SEA can be described as a family of approaches which use a variety of tools, rather than a single, fixed and prescriptive approach. A good SEA is adapted and tailor-made to the context in which it is applied. This can be thought as a continuum of increasing integration: at one end of the continuum, the principle aim is to integrate environment, alongside economic and social concerns, into strategic decision making; at the other end, the emphasis is on the full integration of the environmental, social and economic factors into a holistic sustainability assessment.

SEA is applied at the very earliest stages of decision making both to help formulate policies, plans and programs and to assess their potential development effectiveness and sustainability. SEA is a continuous, iterative and adaptive process focused on strengthening institutions and governance. It is not a separate system, nor a simple linear, technical approach. Instead, it adds value to existing country systems and reinforces their effectiveness by assessing and building capacity for institutions and environmental management systems. Where SEA is applied to plans and programs, a structured approach to integrating environmental considerations can be used. Key stages for carrying out an SEA on the level of plans or programs include: establishing the context, undertaking the needed analysis with appropriate stakeholders, informing and influencing decision making, and monitoring and evaluation. SEA applied at the policy level requires a particular focus on the political, institutional and governance context underlying decision-making processes.

Fig 5b - Key stages in the SEA process



End Note

This *Study* is not meant to serve as a blue print for designing a zoned commercialization/densification plan for Karachi rather it aims to serve as a document that provides an outline for discussion and debate at larger public and representative forums as it is not desirable that decisions of this magnitude and scale on matters of such critical importance for the future of the city and its inhabitants are taken behind closed doors.

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About the Author

Farhan Anwar did his Bachelors in Civil Engineering and Masters in Urban and Regional Planning and specializes as an urban planning and environmental management consultant. He possesses a rich experience of working in projects associated with urban development in Pakistan, with a particular focus on the water and sanitation and environment sectors that includes institutional development and reform of urban water utilities and matters related to public policy. His diverse portfolio ranges from conducting Environmental Impact Assessment (EIA), ecosystem management studies to profiling of MNC environmental practices in Pakistan, and capacity of building of citizen groups on CSR. He has extended consulting services to the World Bank, Asian Development Bank (ADB), the Japanese International Corporation Agency (JICA), the World Conservation Union (IUCN), WWF Pakistan and several prominent Pakistani consulting firms. He presently also serves as a Visiting Faculty at the Department of Architecture and Planning, NED University of Engineering and Technology, Karachi where he teaches a Masters Course on Planning for Sustainable Development. He has structured and conducted a number of training workshops and brainstorming sessions to review and assess government policies, plans and projects as they relate to the development sector. He has a number of publications to his credit and contributes regularly to leading English language publications in Pakistan on urban planning, environment, and development issues. ■

Friedrich Naumann STIFTUNG FÜR DIE FREIHEIT

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CITIZENS FOR A BETTER ENVIRONMENT

Friedrich-Naumann-Stiftung fur die Freiheit
House 19, Street 19, F-6/2
44000 Islamabad-Pakistan
Tel: +92-51-2278896/2820896
Fax: +92-51-2279915
E-mail: pakistan@fnst.org
Website: www.southasia.fnst.org

Shehri-Citizens for a Better Environment
88 R, Block 2, P.E.C.H.S.,
Karachi-75400, Pakistan
Ph: +92-21-34530646/34382298
Fax: +92-21-34530646
Email: info@shehri.org
Website: www.shehri.org

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